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The results of a 2 1/2-year study to formulate an overall plan utilizing and coordinating existing services for hearing impaired children are reported. The definition, classification, incidence, and prevention of hearing impairment and the orientation of professional personnel are discussed. Recommendations are given for identification and medical referral of children with hearing impairment in terms of classification, personnel requirements, identification procedures for preschool and school age children, hearing examinations, and test equipment. Illustrative materials include an audiogram, a scale of hearing handicap, tabular representations of degree of impairment as related to educational needs, screening frequencies, and permissible noise levels for screening. Also considered are the following services for the hearing impaired: parent counseling; education of hearing impaired children; role of university clinics and laboratory schools; psychiatric and social services; rehabilitation and employment; and coordination of services. (JB)

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Illinois Commission on Children
Room 1010, Myers Building
Springfield, Illinois

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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REPORT OF A COMMITTEE FOR A COMPREHENSIVE PLAN FOR HEARING IMPAIRED CHILDREN

ILLINOIS COMMISSION ON CHILDREN

SEAL OF THE STATE OF ILLINOIS
AUG. 26th 1818

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May, 1968

Walter F. Brissenden, Chairman of Commission
Mrs. Frank Stewart, Chairman of Committee
Miss Naomi Hiett, ACSW, Executive Director
Mrs. Edith Davis, ACSW, Field Consultant

LETTER OF TRANSMITTAL

TO: MEMBERS OF THE GENERAL ASSEMBLY
PROFESSIONAL PEOPLE IN THE FIELD OF
HEARING IMPAIRMENT
PARENTS OF HEARING IMPAIRED CHILDREN
AND CONCERNED CITIZENS

While parents have the primary responsibility for meeting the needs of their children, society also has an obligation to help them discharge this responsibility or to assume it when they are unable to do so. Extremely vulnerable are those children who are born with or develop impaired hearing because this interferes with the normal development of language, the vehicle of all human thought and learning.

The basic health and education services which are essential in meeting the needs of all children are fundamental to sound services for those who have special needs. This document, however, is devoted to the unique and specialized services which are essential to the proper growth and development of hearing impaired children.

Sincerely,

Alice Stewart

Mrs. Frank Stewart, Chairman
Committee on Hearing Impaired Children

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INTRODUCTION

BACKGROUND OF STUDY

In February, 1964, a Regional Workshop on Deafness was held in Delavan, Wisconsin under the sponsorship of the University of Wisconsin and the Vocational Rehabilitation Administration. Fourteen people from Illinois were in attendance and at one point in the Conference met together to discuss Illinois' particular problems. These people readily agreed that the major obstacles in Illinois were poor coordination and utilization of available resources and the lack of an overall plan into which the respective services could be fitted. These fourteen people constituted themselves a Temporary Committee with a commitment to return to Illinois to do what they could to overcome these obstacles. Dr. Jerome Alpiner of Northern Illinois University was elected Chairman of this Temporary Committee.

In December, 1964, a joint meeting was arranged with members of this Temporary Committee and the Commission on Children as the Illinois members at Delavan had proposed that the Illinois Commission on Children might undertake responsibility for work on these problems. The following proposal was made:

"We recommend to the Commission on Children the establishment of a Committee on the Hearing Impaired with the charge of developing a State master plan for comprehensive services for the hearing impaired."

Although Commission members at this meeting pointed out that the focus would have to be on children up to age 21 years rather than adults, the other participants expressed their agreement and approval of this focus, stating that an orderly plan for appropriate services available at an early age would make the biggest impact in both the habilitation and rehabilitation of the hearing impaired and it was therefore the necessary and logical foundation for development of services not only for children but adults as well.

In the spring of 1965, the Commission on Children considered and accepted this request for a special project and a Special Committee on the Hearing Impaired was authorized and established.

COMMISSION ON CHILDREN

The Commission on Children is a Statutory Commission created by the Legislature to provide the mandate, manpower and machinery for the orderly study, planning, promoting, coordinating, and stimulating of services in behalf of Illinois children.

Members

The membership of the Commission on Children is composed of 15 public members appointed by the Governor for three year staggered terms, 6 Legislative members appointed by the President Pro Tem of the Senate and Speaker of the House, and 9 State Department or Commission Directors which have direct services to families and children. In addition the Chairman of the Illinois Council of Youth, which is a representative body of young people ages 15 to 21, also serves with the Commission.

Function

The law creating the Commission states the Commission shall:

"(a) Study the needs of all children and assist in planning for the improvement and most effective use of voluntary and tax-supported programs at the state and local levels;

"(b) Study programs for children in Illinois and in other states, make reports and advise public and private bodies throughout the state on matters relevant to the protection, growth, and development of children;

"(c) Assist in the coordination of the administrative responsibility and the services of the State departments and programs as they relate to the well-being of children;

"(d) Make recommendations on needed legislative action on behalf of children;

"(e) Promote adequate educational services and training programs for children, including exceptional children, in all parts of the state;

"(f) Promote social service and vocational guidance, training, and placement for all children who require them, including exceptional children and those youth who leave school prior to high school graduation, and promote adequate special facilities for children maladjusted to their home surroundings;

"(g) Promote adequate provisions throughout the state for diagnosis and treatment of children who may require special medical services."

Procedure

The major part of the work of the Commission on Children is carried on through the use of Special Project Committees which are set up to study, assess, develop and make recommendations to the Commission on specific problem areas concerning children which are considered to require the priority attention of the Commission and the citizens of the State. After action on these recommendations has been taken by the Commission on Children, the Commission selects and transmits them to the appropriate group, organization or person for implementation. This may be to the Legislature for necessary legislation, to the Governor for Executive consideration, to public or private agencies, or to citizens or professional organizations.

SECTION I

MEANING OF HEARING IMPAIRMENT

"Listening and talking are so much a part of everyday life that most of us take them for granted. It is difficult to conceive of a world in which some or all sounds are blotted out or distorted.

"The most serious effects of a hearing disorder are that communication between persons is interfered with and that the individual's sensitivity to his environment is distorted. Among children, hearing impairment may have especially far-reaching consequences:

"1. The most serious effect is its interference with the normal development of language which is the vehicle of all human thought and learning. This effect pervades all the language functions of the hearing impaired child with the obvious lack of speech or distorted speech being only the most apparent manifestation.

"2. It may interfere with a child's normal processes of speech development. Children who cannot hear cannot learn to talk without special help. Children who hear some sounds but not others often develop such distorted speech that it is almost unintelligible.

"3. A child born with severely impaired hearing or the victim of early hearing loss is deprived of much of the close give-and-take with his family and his surroundings which serves as a basis not only for speech and language but for social growth and behavior and personal satisfaction.

"4. If untreated, hearing impairment may interfere with education, especially through the child's failure to comprehend and use language. Children with uncorrected hearing loss may be thought to be mentally retarded, particularly when they fall far behind their classmates in school.

"5. Children handicapped by hearing loss may have serious problems of adjustment. With inadequate management, some may be over-aggressive, defiant or disobedient; others become withdrawn and may avoid competitive situations or shun group activities with classmates, thus forfeiting opportunities for stimulation and participation.

"6. Parents may have difficulty in adjusting to their child's handicap and the increased responsibilities it imposes. Lack of knowledge about hearing impairment, anxiety about their role as parents, feelings of blame or shame about the handicap may seriously disturb family relationships.

"7. The financial burden of providing special diagnosis, treatment, and training may fall hard on families and communities alike. The cost of education for deaf and hard-of-hearing children is three to six times greater per child per year than for children in regular school programs.

"8. The child's future as a contributing member of his community may be at stake—especially as concerns his vocation and his ability to relate to and communicate with his neighbors."[1]

THERE ARE THREE PRINCIPAL TYPES OF HEARING IMPAIRMENT WHICH MAY CO-EXIST:

1. CONDUCTIVE IMPAIRMENT is the term applied to a loss of hearing resulting from any dysfunction of the outer or middle ear. The primary effect is a LOSS OF LOUDNESS. Perception of sounds is restored when the loudness of sounds is increased. Loss resulting from lesions of the outer or middle ear may vary from mild to moderate and

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[1] A Guide For Public Health Personnel—Services for Children with Hearing Impairment —prepared by the Committee on Child Health of the American Public Health Association, 1956, p. 11.

rarely exceed 60 dB (ASA) or 70 dB (ISO)[2] through the speech-frequency range. These lesions are often preventable and a considerable number respond well to medical treatment including surgery when discovered early. Since the neural mechanism of the ear is unaffected, the use of a hearing aid is generally very satisfactory.

2. SENSORI-NEURAL IMPAIRMENT (NERVE OR PERCEPTIVE IMPAIRMENT) is the term applied to a loss of hearing resulting from dysfunction of the inner ear or the nerve pathway from the inner ear to the brain stem. The primary effect is a loss of TONAL CLARITY as well as a loss of loudness of sound. It is usually the perception of higher tones which is most affected, but when the loss is severe both high and low tones are involved. When the speech frequencies are affected, the clarity of words is distorted and intelligibility as well as awareness to sound is impaired. Since the sensory and neural mechanisms are involved, the benefits of a hearing aid may be limited. That is, the experience when using an aid may be one of increased loudness but limited clarity. Sensori-neural losses may vary from mild to total. Medical treatment can as yet do little or nothing for this type of impairment once it has become established. Prevention and early education are therefore of prime importance.

3. CENTRAL IMPAIRMENT (CENTRAL DEAFNESS) is the term applied to auditory impairments resulting from dysfunction along the pathways (tracts and nuclei) of the brain from the brain stem to and including the cerebral cortex. Although relatively little factual information is known concerning this disorder, the primary effect appears to be interference with the ability to perceive and interpret sound, particularly speech. Loss of loudness is not generally significant and consequently the decibel notation is inadequate for describing this type of impairment. Thus, central deafness is not a hearing-loss problem in the sense of the previous two definitions. It is a neurological disorder for which medical treatment can do little or nothing, therefore, the value of early education cannot be over emphasized. Loudness is not a primary factor. The value of a hearing aid in this type of hearing impairment remains controversial.

THERE ARE FIVE GENERAL CLASSIFICATIONS OF HEARING IMPAIRMENT.[3]

1. SLIGHT IMPAIRMENT results in difficulty in hearing speech under less than ideal acoustic conditions. A child with a slight hearing loss will not be able to hear faint or distant speech clearly, will probably get along in school situations, and probably will not have defective speech because of the hearing loss.

2. MILD IMPAIRMENT results in some trouble understanding conversational speech at a distance of more than five feet. A child with mild loss will probably miss as much as 50% of class discussion if voices are faint or if the face is not visible. He may have defective speech if loss is of high frequency type and may have limited vocabulary.

3. MARKED IMPAIRMENT results in trouble hearing speech under most conditions. Conversational speech must be loud to be understood. A child will have considerable difficulty in following classroom discussion, may exhibit deviations of articulation and voice, may misunderstand directions at times, may have limited language, and his vocabulary and usage may be affected.

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[3] See Table I, Section V., Identification and Medical Referral, for a discussion of the degree of impairment and decibel loss.

4. **SEVERE IMPAIRMENT** results in inability to hear speech unless amplified in some manner. A child with severe impairment may hear a loud voice at one foot from the ear and moderate voice several inches from ear. He will be able to hear loud noises such as sirens and airplanes. His speech and language will not be learned normally without early amplification. He may be able to distinguish vowels but not all consonants even at close range.

5. **EXTREME (PROFOUND) IMPAIRMENT** results in inability to hear and appreciate speech by ear alone even with amplification of sound. Deafness is a profound impairment in both ears which precludes any useful hearing. A child may hear a loud shout one inch from his ear, or nothing at all. He may or may not be aware of loud noises and his speech and language do not develop normally.

There are numerous variables which affect the identification, diagnosis and management. Often there is a combination of the following variables which must be considered:

age at onset of hearing loss—whether at birth or after the development of a normal language pattern;
degree of hearing loss—the amount and nature of useful residual hearing;
type of impairment—conductive, sensori-neural, or central damage; plus the physical condition, emotional stability, intelligence, motivation, and personality of the child;
timing of the treatment and management and methods followed;
family attitudes and quality of the home, school and community environments;
quality of professional and parental teamwork.

Hearing impairment is not an entity—it is a functional disorder. As such, it affects the total person and not just his hearing. Once the identity of an individual with an impairment has been ascertained, he may require otologic, audiological, psychological, educational and other scrutiny so that a comprehensive description of his total problem may be derived, a diagnosis made, and a sequence of management prescribed.

SECTION II

INCIDENCE OF HEARING IMPAIRMENT

The actual number of children with some measurable degree of hearing loss is not known. Most estimates of incidence and prevalence of hearing impairment are based on studies of school children. Sufficient data have been gathered over the years to make possible approximation of incidence and prevalence. Roughly, 5% of school children may be found on screening to have a hearing loss sufficient to warrant further study or treatment. About half of these children or, roughly, 1½ to 3% of the total school population may actually have a hearing defect severe enough to require special medical care and educational help. Approximately 0.1% of school age children can be classified as deaf.[3]

Information on a number of studies was made available to the Committee. One such study was the Pittsburgh Study on incidence of hearing loss in school age children, ages 5-10. (See Chart I Statistics on Hearing Impaired.)

Using these same percentages and applied to the Illinois population by county, the estimates by county on hearing impaired children in Illinois appear on the Chart II—"Estimate by County of Hearing Impaired Children in Illinois Based on Incidence and Degree of Hearing Loss."

An unpublished study of the Chicago Public Schools on screening of children ages 5 to 14 years, and covering 121,586 children identified 5,481 or 4.50% were borderline loss and 3079 or 2.53% were greater than borderline. See Appendix—"Statistics on Children with Hearing Loss in the Elementary Grades of the Chicago Public Schools" Charts I-IV.

An unpublished study from New York provides information on misdiagnoses of children. This study of pre-school children diagnosed at the New York Hospital as having hearing losses, was conducted to determine under what diagnoses the referral of these children occurred. In less than 40% of the cases was hearing loss cited as a possibility. At least 60% had been diagnosed as mentally defective or aphasic or emotionally disturbed.[4]

The United States Department of Health, Education and Welfare recently reported that one out of every ten persons has some degree of hearing loss. In spite of efforts to control it, the number of individuals with hearing loss is increasing in this country. Part of this is the result of an increase in the general population, but contributing factors are improved medical techniques and procedures. These improvements have resulted in saving the lives of children who would not have survived 30 years ago. As a result, however, hearing impairments are more frequently encountered in this group. An example of this high risk group was shown in a study of the institutions of the Illinois Department of Mental Health in which 13,258 individuals were given screening examinations and 2,847 otologic referrals were necessary.

A National study conducted by the Bureau of Educational Research, New York Public Schools, and members of the Conference of Executives of American Schools for the Deaf for the purpose of establishing reading tests norms for deaf children revealed the following:

"The norms developed were derived from the raw score of 5,307 pupils, ages 10½ through 16½, in 73 special schools for the deaf and schools with special classes for the deaf.

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[3] A Guide For Public Health Personnel—Services for Children with Hearing Impairment —p. 11.

[4] Journal of Speech and Hearing Disorders, Identification Audiometry Monograph Supplement #9, September, 1961.

This constituted 54% of all deaf pupils in the United States in 1958-59 receiving instruction in special schools and classes. Grouped into broad categories, the hearing losses were as follows:

decibel loss	49 or less—4.6% of pupils
decibel loss	50 to 84—39.3%
decibel loss	85 or more—56.1%

Results showed that the average deaf child of age 12-2 has a reading level of normal pupils in the 7th month of second grade and that the 15 and 16 year olds averaged only at grade 3.5 level. From children of age 10-2 to those of age 16-2, the difference in terms of grade equivalent was from 2.4 to 3.5, little more than a year over a six year interval."[5]

The number of persons with hearing impairment or disabilities directly related to hearing impairment is so large that hearing conservation must be considered a public health problem of no mean size. Hearing conservation is a total program of prevention, identification, diagnosis, treatment and education.

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[5] Test Service Bulletin #98, issued by Test Department, Harcourt, Brace and World, Inc.

SECTION III

PREVENTION OF HEARING IMPAIRMENT

A high priority approach to the problem of hearing loss in children is preventive treatment. Preventive aspects of hearing loss have two major dimensions: primary prevention which focuses on the avoidance of events leading to an impairment in hearing; secondary prevention which emphasizes early detection and prompt medical treatment and/or rehabilitation. The application of preventive techniques requires appropriately trained personnel in medicine and related health disciplines, continuing awareness of the subtlety of symptoms of hearing loss and a definite program of education, surveillance and treatment services.

PRIMARY (AVOIDANCE) PREVENTION of hearing loss consists of measures related to basic health protection and control of factors specifically responsible for hearing handicap. Basic health protection requires that all pregnant women, infants and children be provided a realistically available program of health supervision and medical care. It is only in this perspective that a hearing conservation program and prevention and treatment of hearing loss can occur. To this effect it is important that public funds including those available to the Department of Public Aid be utilized for preventive measures such as immunizations, periodic health review and supervision rather than limited to sickness oriented medical care. To implement this recommendation, a locally based public health department is necessary. Education of the public and follow-up attention to women and children who have not had appropriate health care should reside within such an organized county health department group.

Increasing awareness that certain pregnant women, infants and children represent a population at "high risk" for complications leading to death or disability indicates that special attention be provided to this group. Since the economically and culturally deprived are especially vulnerable because they often do not or cannot seek out appropriate medical care, a case finding and follow-up medical program needs to be evolved for this group. This responsibility must be shared by an organized health department working in cooperation with health practitioners in the community. Techniques for identification of specific "high risk" individuals, standards of care, financial arrangements, follow-up and, where necessary, appropriate referral to specialized regional medical centers should be some of the operational functions. High risk groups in this context are defined as follows: Pregnant women at high risk are those whose health condition indicates a complicated pregnancy, or those who have had previous complicated pregnancies, deliveries or have given birth to an infant who has difficulties due to such complications. Infants at high risk include those with real or anticipated complications due to prematurity, prolonged labor, birth trauma, severe anoxia, severe infection or blood group incompatibilities. Appropriate care for such women and infants requires professional personnel and facilities adequate to this purpose; this can best be provided through local organized effort.

SECONDARY PREVENTION OF HEARING LOSS is concerned with children who have real or probable hearing loss and also with early recognition and the initiation of prompt medical treatment and/or rehabilitation. The objective of such efforts is to eliminate or minimize hearing loss after its presence is detected. Children who require special attention in secondary prevention are among the following:

A. All infants and children with a history of recurrent or chronic ear infection or whose behavior suggests a change in hearing ability as perceived by parents or teachers.

B. All children with delayed or defective speech and language or children who do not respond appropriately to sound stimuli.

C. All infants and children with central nervous system infection (encephalitis, meningitis) or trauma and those who had received drugs potentially toxic to the hearing organ.

D. All infants of high risk mothers (rubella exposed, toxemic) or who have had birth or newborn period complications (blood factor incompatibility).

E. Children who need to be carefully watched because of high probability of hearing loss as a complication of a chronic condition such as chronic tonsillitis, sinusitis, or bronchitis, hay fever or asthma, cleft palate, cerebral palsy, congenital deformity of the ear and/or external ear canal.

RECOMMENDATIONS

RECOMMENDATIONS FOR THE PRIMARY PREVENTION OF HEARING IMPAIRMENT are concerned with some of the following approaches to child care:

1. Complete initial and booster immunizations should be provided to all children. With the presently available immunizations for diphtheria, tetanus, whooping cough, smallpox, polio, measles, mumps and anticipated immunizations for German measles (rubella) and other infections, the value of such protection requires constant emphasis. Educational programs directed toward parents and maintenance of continuous child health records with follow-up of needed basic and/or booster immunizations are important procedures to attain this disease prevention goal. Responsibility for such health care implementation through the family's physician is a parental obligation. In the event that such basic child health needs are not provided, the community has a responsibility through the cooperative efforts of practicing physicians, public health agencies and school authorities.

2. General avoidance of exposure by pregnant women to known viral disease and strict avoidance of contact with German measles during early pregnancy must be emphasized. If a pregnant woman is exposed to German measles, her physician should be notified immediately in order that her status of immunity may be determined by appropriate laboratory tests. Information about the dangers of exposure to German measles should be provided to all girls in the course of school health education programs. Prenatal services should be available to all women regardless of socio-economic, residence or marital status.

3. Proficient medical care should be available to all mothers and infants who are considered to be at high risk for complications during the pregnancy, birth and postnatal period. For example, hemolytic disease of the unborn and newborn infant requires management by specially trained physicians functioning as a team. Similarly, other newborns such as small weight prematures, infants born of diabetic mothers or following toxemias of pregnancy require skilled treatment. Leadership to provide a workable program of high quality care for all mothers and infants throughout Illinois should come from hospital medical staffs, organized medical societies and public health authorities.

4. Potentially ototoxic drugs should be avoided as treatment choices except as lifesaving measures or when no other drugs are suitable for a particular disease. Appropriate information to the medical practitioner about such potentially toxic drugs is a responsibility of particularly knowledgeable physicians, organized medical groups, pharmaceutical manufacturers and public health authorities.

5. Specific attention to primary prevention of hearing impairment may also concern family planning through *genetic counseling*. Parents of a child whose deafness cannot be defined as an acquired defect, or potential parents wherein there is a familial history of congenital deafness, are potential candidates for evaluation of the probability of conceiving deaf children. It requires emphasis, however, that genetic counseling is an interpretation of risk which is based on medical and scientific data. Since it is often difficult to differentiate acquired from genetically determined deafness and since family histories are not always accurately recalled, genetic counseling is necessarily limited to specific situations. Such advice is presently available at major medical centers. When indicated it should be pursued through the family physician or otologist. Information as to existing facilities should be available from voluntary hearing societies, county or state public health agencies or directly from major medical centers or medical schools.

Although services from existing medical and/or genetic counseling resources may meet some of the needs of individuals seeking such advice, it is highly probable that more readily attainable genetic counseling services will also be needed. Organized programs for this purpose would require development in an environment combining graduate level education and a medical center. Voluntary and/or public sources of support would be needed for such programs. A recommendation is made that an early study be made of the need for and availability of genetic counseling resources in Illinois.

6. There is consensus about the need for controlling noise levels which are harmful to hearing; however, there is considerable disagreement regarding the suitability of present criteria levels for regulatory purposes. Apparently, for the present, equitable criteria for regulatory purposes must be a product of compromise. In view of this, it is important that regulations regarding such criteria take into consideration the character and composition of the noise, the intensity of the noise, the duration of continuous exposure, the duration of the intervals between exposures and the total duration of interrupted exposures.

Since people and their hearing mechanisms are affected differently by noise exposure, some amount of risk must be accepted. Consequently, criteria for noise exposure should be based on the best standards available. At the present time, the most recent and comprehensive criteria are those currently under consideration by the International Organization for Standardization (ISO/TC 43).

Every student, teacher and visitor should be required to wear an industrial quality ear protective device when participating in vocational or industrial art shops or laboratories or any other school environment in which exposure to noise from machinery and/or equipment is detrimental to hearing.

The responsibility for formulating and promulgating regulations relating to severe noise exposure should be shared by the Illinois Department of Public Health and the Office of the Superintendent of Public Instruction insofar as educational programs are concerned. The enforcement of these regulations should be the responsibility of the Office of Superintendent of Public Instruction. This would include temporary work placements under the jurisdiction of the schools. Legislation should be sought to effect protection of hearing in noisy environments as for the protection of vision (in S.B. No. 1190, 1965).

RECOMMENDATIONS FOR THE SECONDARY PREVENTION OF HEARING IMPAIRMENT

7. Physicians-in-training should have emphasis on prevention, early diagnosis and treatment of hearing loss. This responsibility should be that of medical schools and teaching hospitals.

8. Ideally all infants should be screened at some time after birth or during early infancy to evaluate hearing status rather than to proceed on the assumption they have normal hearing until proven otherwise. Such function should be that of the infant's physician—or if in a clinic, by trained personnel as an integral part of an infant health evaluation program. Reasonably adequate techniques are available for this purpose. Infants or children determined to be "at risk" for developing hearing impairment as a result of a predisposing birth problem, disease or trauma should be provided follow-up hearing evaluations not only by their physician and his usual referral sources, but, if necessary, by local health agencies.

9. School age children should have regularly scheduled hearing tests under school auspices. Special testing sessions should be additionally pro-

vided for those children whose history of illness, development or behavior suggests the consideration of hearing impairment.

10. The pre-school child should also be included in such screening evaluations whenever opportunities are present for such an organized effort; for example, day care programs, pre-kindergarten sessions, Sunday school, etc. This effort could involve the local medical society, the schools, trained voluntary groups and public health agencies.

11. Treatment including such specialized care as is necessary should be available to all. The role of private physicians, public health agencies, public aid agencies and schools may need to be defined to assure follow-up of children with hearing impairment in disadvantaged families.

12. In all these recommendations there is a need for strong health education programs to acquaint parents with the value of cooperating with programs evolved to detect hearing impairment and to follow through with the diagnostic and treatment services which may be required.

SECTION IV

ORIENTATION OF PROFESSIONAL PERSONNEL

Tremendous progress has been made in recent years in medical treatment, education, and social rehabilitation of persons with hearing problems. However, awareness of these advances is generally limited to the specialists who spend the major part of their time in working with the hearing impaired. It is imperative that other professional people who see young children in a more general fashion be sensitized to the possibilities of hearing impairment, its handicapping effects, and to the resources for doing something about them. Physicians can elicit from the parents, signs upon which they can base clues about hearing impairment.

For example, such information as the fact that the mother had German Measles when she was carrying the child should be an important clue to the physician checking this child's hearing. In this instance, it is sound advice to assume that this child is hearing impaired unless proven otherwise.

Hearing conservation programs are aiming more and more at a balance of emphasis with consideration of the educational and social factors accompanying hearing loss as well as the need for medical intervention. Although the separate judgment of each of the professional disciplines, which has a part in diagnostic evaluation, is important, a group plan formulated by agreement among the various professional workers is essential. This presumes a recognition on the part of each professional of the unique contribution of the other. Unfortunately, this is an area where a great deal of orientation is still required.

RECOMMENDATIONS

1. Practicing physicians, hospital house staff and medical students should be made aware of the crucial importance of early language and speech training for a hearing impaired child and hence of the crucial need for early detection, diagnosis and referral. Since information about available resources to help the parents and the child with hearing impairment is so important, the publications and meetings of the various medical groups should be utilized to impart information in these two areas.

2. In order to implement a satisfactory educational program, it is imperative that school personnel such as the social worker, audiologist and psychologist have special training in regard to hearing impairment in children. Such training should be included in their university program or be made available through specially designed school internships or summer institutes. Traineeships and scholarships are now available to such personnel under Article 14 of the School Code of Illinois.

3. Efforts should be made by agencies who have responsibility for hearing impaired children to initiate and maintain communications with such professional groups as the Illinois Psychologists Association, Illinois Administrators of Special Education and Illinois Speech and Hearing Association.

SECTION V

IDENTIFICATION AND MEDICAL REFERRAL OF CHILDREN WITH HEARING IMPAIRMENT*

I. Introduction

The following is largely a description of desirable standards, procedures and criteria pertaining to the audiometric identification of hearing impaired children. This information provides guidelines to what is desirable and acceptable in conducting a hearing conservation program.

Admittedly, there is no single procedure or standard which will identify all children in need of medical and/or educational attention. However, the variety of procedures and standards which presently exists is confounding the problem of case finding and making it more difficult to recognize children who are in need of assistance. It is primarily for this reason that uniform procedures and standards are recommended. A less critical but no less important need for uniform procedures is to allow for the accurate collection and comparison of data. To ascertain the effectiveness of hearing conservation efforts, it is essential that data and statistics be collected within the framework of comparable conditions and definitions. A knowledge of the incidence and prevalence of hearing impairment is important to all persons who are involved in the medical, audiological, educational and rehabilitative aspects. Finally, accurate data are necessary for administrative planning to meet present and future needs and for research to solve some of the many problems related to hearing impairment.

II. Classification and Nomenclature

During the past several years the Committee on Conservation of hearing of the American Academy of Ophthalmology and Otolaryngology has issued recommendations concerning the evaluation of hearing impairment and the classification of hearing handicaps. With the widespread adoption of the new International Reference Zero level for Pure Tone Audiometers, the Committee has restated and combines its recommendations and explanations. It is appropriate, therefore, that these be included as part of the statements and recommendations of this publication. The following material is a paraphrasing of particularly pertinent sections of the Committee's most recent guide for the classification and evaluation of hearing handicaps.[6]

A. Classes of Hearing Handicap

In order to plan for the needs of those with impaired hearing, it is necessary to know the number of persons with hearing problems in various age groups and the severity of their handicaps. Those who are profoundly deaf or who have a severe handicap differ from those who are mildly or moderately hard of hearing, not only in terms of their numbers and degree of handicap, but also in terms of their medical, educational and vocational needs.

The Committee on the Conservation of Hearing of the American Academy of Ophthalmology and Otolaryngology recommends the division of handicaps of hearing into degrees and classes according to the person's ability to hear everyday speech well enough to understand it. A person's ability to hear speech can be estimated by averaging his ability to hear the three audiometric frequencies that are critical for the understanding of speech. Specifically, the hearing levels, in decibels, (dB) at 500, 1000 and 2000 cycles (cps) per second are added and the sum is divided by three. This calculation is made for each ear independently and if there is a difference between the ears, only the better ear is used to estimate the handicap.

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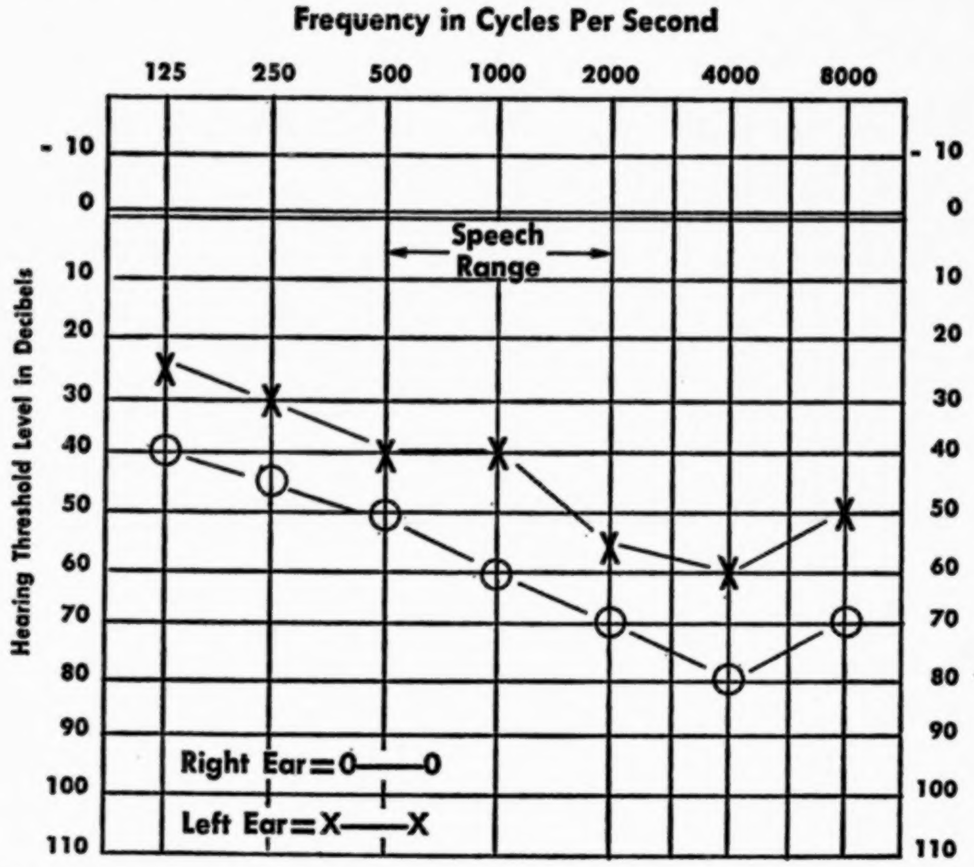
*This Section has no separate recommendations as the entire Section with the discussion of desirable standards and procedures should be considered as recommendations.

[6] Davis, H. Guide for the classification and evaluation of hearing handicap in relation to the International audiometric zero. *Trans. Amer. Acad. Ophthalmol. Otolaryngol.*, 69(4), 1965, 740-751.

For example, consider the following audiogram:



The hearing levels at 500, 1000 and 2000 cps (speech range) are 40 dB, 40 dB and 55 dB respectively for the left ear and 50 dB, 60 dB and 70 dB respectively for the right ear.

That is:	Left Ear		Right Ear
500	40		50
1000	40		60
2000	55		70
	135	= SUM =	180
	3)135		3)180
	45	= AVG. =	60

Therefore, the estimated degree of handicap is 45 dB based on the left ear (better ear) as there is a difference between the ears.

Table I defines each degree and class of handicap in terms of the pure tone averages described above. The numbers represent the average of the hearing threshold levels in decibles at 500, 1000 and 2000 cps for the two existing audiometric standards. The American Standards Association's recommendations of 1951 and the International Standards Organization's recommendations of 1964.[7] Table III is a simplified version of the Classes of Hearing Handicap advocated. (See Table III—Scale of Hearing Handicap.)

TABLE III

SCALE OF HEARING HANDICAP

Hearing Level dB[8] 1951 ASA Reference	Degree and Class of Handicap	Hearing Level dB[8] 1964 ISO Reference
15 dB or less	NONE (A)	26 dB or less
16 - 29 dB	SLIGHT (B)	27 - 40 dB
30 - 44 dB	MILD (C)	41 - 55 dB
45 - 59 dB	MARKED (D)	56 - 70 dB
60 - 79 dB	SEVERE (E)	71 - 90 dB
80 dB or more	EXTREME (F)	91 dB or more

This classification is intended primarily for statistical purposes. It is not related to the problem of medical diagnosis although it may be of medical significance. Neither can the table legitimately be used to classify children for educational purposes or for employment without other pertinent considerations. The classes of hearing handicap as defined here indicate the usual handicap of the average individual under the varying circumstances of everyday life.

Table IV provides a guide to the educational significance of various degrees of hearing impairment and program needs. This information is a compilation from several sources and conforms to the Rules and Regulations for Educational Programs in Illinois. The degree of handicap is based upon the average hearing threshold level at 500, 1000 and 2000 cps. In this respect the degree of handicap in Table IV is identical with the degree in Table III.

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[7] The American Standards Association and the International Standards Organization represent national and international groups whose concern is the standardization of products, processes and procedures. While the American Standards Association makes every effort to conform to the international recommendations, it does not necessarily do so. Thus, with respect to the reference levels for pure tone testing, the ISO recommendations and the ASA Standard are, at least temporarily, both in effect. These standards, both American and International, can be purchased from the American Standards Association, 10 East 40th Street, New York, New York 10016.

[8] Average of hearing levels is decibels at 500, 1000 and 2000 cps. Whenever the average for the poorer ear is 25 dB or more, greater than that of the better ear, 5 dB are added to the average for the better ear for a more accurate estimate of the degree of handicap.

TABLE IV
RELATIONSHIP OF DEGREE OF IMPAIRMENT* TO EDUCATIONAL NEEDS

Average of the Speech Frequencies in Better Ear	Effect of Hearing Loss on the Understanding of Language and Speech	Educational Needs and Programs
SLIGHT 16 to 29 dB (ASA) or 27 to 40 dB (ISO)	May have difficulty hearing faint or distant speech. May experience some difficulty with the language arts subjects.	Child should be reported to school principal. May benefit from a hearing aid as loss approaches 40 dB (ISO). May need attention to vocabulary development. Needs favorable seating and lighting. May need lipreading instructions. May need speech therapy.
MILD 30 to 44 dB (ASA) or 41 to 55 dB (ISO)	Understands conversational speech at a distance of 3-5 feet (face to face). May miss as much as 50% of class discussions if voices are faint or not in line of vision. May exhibit limited vocabulary and speech anomalies.	Child should be referred to special education for educational follow-up. Individual hearing aid by evaluation and training in its use. Favorable seating and possible special class placement, especially for primary children. Attention to vocabulary and reading. Lipreading instruction. Speech conservation and correction, if indicated.
MARKED 45 to 59 dB (ASA) or 56 to 70 dB (ISO)	Conversation must be loud to be understood. Will have increased difficulty in group discussions. Is likely to have defective speech. Is likely to be deficient in language usage and comprehension. Will have limited vocabulary.	Child should be referred to special education for educational follow-up. Resource teacher or special class. Special help in language skills: vocabulary development, usage, reading, writing, grammar, etc. Individual hearing aid by evaluation and auditory training. Lipreading instruction. Speech conservation and correction. Attention to auditory and visual situations at all times.
SEVERE 60 to 79 dB (ASA) or 71 to 90 dB (ISO)	May hear loud voices about one foot from the ear. May be able to identify environmental sounds. May be able to discriminate vowels but not all consonants. Speech and language defective and likely to deteriorate.	Child should be referred to special education for educational follow-up. Full-time special program for deaf children, with emphasis on all language skills, concept development, lipreading and speech. Program needs specialized supervision and comprehensive supporting services. Individual hearing aid by evaluation. Auditory training with individual and group aids. Part-time in regular classes only as profitable.
EXTREME 80 dB or more (ASA) 91 dB or more (ISO)	May hear some loud sounds but is aware of vibrations more than tonal pattern. Relies on vision rather than hearing as primary avenue for communication. Speech and language defective and likely to deteriorate.	Child should be referred to special education for educational follow-up. Full-time in special program for deaf children, with emphasis on all language skills, concept development, lipreading and speech. Program needs specialized supervision and comprehensive supporting services. Continuous appraisal of needs in regard to oral and manual communication. Auditory training with group and individual aids. Part-time in regular classes only for carefully selected children.

*Medically irreversible conditions and those requiring prolonged medical care.

B. Impairment, Handicap and Disability.

The terms hearing handicap, hearing disability and hearing impairment have been used indiscriminately to describe various degrees of hearing loss to the extent that no specific connotations are readily attached to these terms. To clarify the situation, the following definitions will apply in this publication and are quoted verbatim from the guide of the American Academy of Ophthalmology and Otolaryngology:

1. IMPAIRMENT: A deviation or a change for the worse in either structure or function, usually outside of the range of normal.
2. HANDICAP: A disadvantage imposed by an impairment sufficient to affect one's personal efficiency in the activities of daily living.
3. DISABILITY: Actual or presumed inability to remain employed at full wages.

III. Personnel

Because of the complexity of the tests for different ages, such tests should be administered by trained personnel. As a general rule, provision for conducting hearing screening programs by lay groups cannot be endorsed, for such programs are fraught with danger. Instead, volunteer groups can provide their greatest service in this respect through their promotion of screening programs under appropriate professional auspices.

The physician is the key figure in the initial assessment of hearing in the very young child. Ideally appraisal of hearing should be incorporated into the pediatrician's initial examination of the infant's reflexes. The obstetrician, pediatrician, or in other cases the general practitioner who examines the child in the hospital nursery, should be alert to the infant's response to sound.

Audiologists and otologists, persons skilled in hearing evaluation and diagnosis, are generally located in metropolitan areas or university settings. The organization of clinic services and eligibility requirements vary greatly from one geographic and administrative setting to another. Other local resources change from year to year. Therefore, it is more useful to the inquiring parent to be referred to one of the agencies which has knowledge of the current resources in a particular locality rather than be given a list of medical personnel or clinics. The sources to which parents may be referred are the Hearing Conservation Coordinator in the Illinois Department of Public Health, the Hearing Consultant in the Office of Superintendent of Public Instruction, the Division of Services for Crippled Children, the Chicago Hearing Society, the Illinois School for the Deaf or the Regional Offices of the Department of Children and Family Services.

Nurses have customarily played a large part in hearing conservation programs, including the time-consuming screening procedures needed for detection of children with hearing loss. Currently, the trend is to relieve nurses employed by health departments and boards of education from these screening procedures. The nurse's other responsibilities in hearing conservation programs are as great or greater than before: to participate in goal setting, to follow through on those children who showed a hearing loss, and to contribute to the evaluation of results.

The follow-up procedures are fundamental to the entire program and it is reasonable to expect the nurse to develop a high level of competence to (1) counsel with parents and children about the child's needs for diagnosis and treatment; (2) utilize all available facilities for diagnosis and treatment; (3) coordinate information about the child and his family with specialists in the health and education field.

IV. Identification Procedures

A. General Test Methodology for Pre-School Children

There are many reasons why it is desirable to test a child's response to sound very early. Among the most important are these: Early discovery of any physical or intellectual condition that deviates from normal will result in better management and greater possibilities of correction of the deviation. In addition, the whole developmental pattern of a child may be affected by a hearing difficulty. The enlightened parent who has learned the importance of language development and the related importance of visual and tactile affection will be able to provide the child with a basic foundation of communication as well as help him develop the ability to relate to people; this is an ability which no amount of corrective treatment can achieve. A child who is denied these developmental benefits during his first four years rarely compensates for this lack.

Every child should be examined who exhibits in his personal behavior or family history any unusual conditions or adverse incidents. Indications of parental Rh incompatability, rubella during pregnancy (or other maternal rashes and infectious diseases during the first trimester of pregnancy), birth injury, prematurity, hearing loss in the parents, siblings, and more distant relatives, and obvious multiple handicaps should make a child subject to as early and thorough an evaluation as possible.

Unfortunately, all conditions predisposing to hearing loss have not yet been identified. Therefore, every child should be examined for possible hearing loss. Arrangements for testing can be more readily made where populations of children are "captive" as in hospital nurseries, infant welfare clinics, doctors' offices, nursery schools, and institutions.

The testing of young children is more difficult than the testing of older children and there is a general lack of organized screening programs for such testing. Appropriate tests should be used routinely by pediatricians, general practitioners, public and private nurses and audiologists. The general public must be made aware of these resources so that children who are suspect will be brought to their attention. The indices of suspicion listed previously must be made generally known so that parents can alert professional people to the fact that they are examining an "at risk" child.

Various types of tests and examinations may be used to screen hearing ability and detect loss. An important point to remember is that no infant is too young to test. The testing of the neonate (birth to two months) involves essentially the observation of reflex responses such as startle and localization of sound because he has had only very limited experience with auditory associations and his learned responses are not sufficiently specific or differentiated to be interpreted meaningfully by the examiner. In children from two months to two years of age, the test responses will differ with the age of the child and include such involuntary responses as the startle response, localization of sound and such voluntary responses as those seen in play audiometry and sound and object identification. Pure tone audiometric testing can be used successfully with a surprising number of children of pre-school age. Electro-physiological responses are obtainable at all ages, however, they are particularly useful with children who are unable to cooperate.

B. General Test Methodology for School Children

Audiometric identification of hearing impaired school children should be carried out in two stages. The first is known as SCREENING AUDIOMETRY involves the testing in an abbreviated way, of large numbers of children. This first stage results in the identification of (1) those who have no hearing problems, and (2) those who may have hearing problems. The second stage involves a more detailed test, known as THRESHOLD AUDIOMETRY, which confirms or nullifies the initial suggestion of a hearing problem (screening) and leads to a medical referral, if indicated. It should be noted that threshold audiometry is only appropriate for those children who "fail" the screening test. In both stages, the child's ears are tested individually.

Experience shows that about 50% of the children tentatively identified as having a hearing impairment on the basis of screening audiometry will not be confirmed as having a hearing impairment on the basis of threshold audiometry. The chief reasons for this appear to be (1) the existence of acute pathological conditions which clear up spontaneously before the administration of the threshold test, and (2) the child's failure to understand or follow instructions at the time of the screening test. These can result in needless time spent administering threshold tests and possibly a spurious number of over-referrals to physicians. In order to conserve time and reduce the number of over-referrals, a second screening test should be administered to those children who "fail" the first screening test. Threshold audiometry is then conducted with only those who "fail" both screening tests. The second screening is usually administered within two weeks of the first and the threshold test immediately following the second screening.

Screening procedures involve either individual or group testing of large numbers of children. It is strongly recommended that INDIVIDUAL PURE TONE TESTING be planned for all school grade levels. Local considerations having to do with the amount of time and money available for a program may make it necessary to resort to group pure tone testing; such group procedures are usually a poor alternative and should certainly not be attempted below the second semester of the third school grade level.

Regarding testing techniques, the "SWEEP" test has been devised for rapid individual screening. In the sweep test, the hearing-level dial of the audiometer is fixed at a pre-determined level and the frequency dial is "swept" from the low through the high tones. At each frequency, the subject is checked for the appropriate response.

For threshold testing, the technique is more complicated as there are more variables to control which otherwise will yield inaccurate estimates of the subject's best hearing. The procedure that is recommended for carrying out pure-tone threshold determinations has been described by Hughson and Westlake[9] and Carhart and Jerger.[10] The fundamental feature of this technique is that the hearing threshold for each frequency is measured by increasing the intensity of the tone from a level where it is inaudible to the first level where it is heard.

C. Regularity of Testing

The regularity with which hearing tests are administered is determined by several factors. Some of these are (1) the ages at which disorders of hearing are most prevalent, (2) the number of children to be tested (3) the ages of the children, (4) the personnel and facilities available for testing, (5) the time allotted for testing, and (6) the personnel and services that are available for follow-up on children found to have impaired hearing.

An adequate program should provide annual testing in grades K, 1, 2, and 3. While less frequent testing may be planned in subsequent school grades, no child should experience more than a three-year interval between tests from grades 4 through 12.

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[9] Hughson, W., and Westlake, H. Maual for program outline for rehabilitation of aural casualties both military and civilian. *Trans. Amer. Acad. Ophthalmol. Otolaryngol.* Suppl., 48, 1944, 1-15.

[10] Carhart, R. and Jerger, J. F. Preferred method for clinical determination of pure-tone thresholds. *J. speech hear. Dis.*, 24(4), 1959, 330-345.

In addition, certain children require more attention than routine screening affords, for example:

(1) Children discovered by previous auditory tests to have hearing impairment.

(2) Children enrolled in special education classes or programs.

(3) Children known to have any disorder which may cause or be associated with hearing impairment—for example, those with frequent colds, ear infections, hay fever, cerebral palsy and cleft palate.

(4) Children with delayed or defective speech.

(5) Children returning to school after serious illness.

(6) Children who repeat a grade or are doing noticeably poorer work than formerly.

(7) Children referred by the classroom teacher for any reason.

(8) All children who are new to the individual school or to the school district.

D. Test Frequencies and Hearing Levels

(1) Screening Audiometry

For the screening stage of identification audiometry, the following pure-tone frequencies and hearing levels should be used:

TABLE V. SCREENING FREQUENCIES AND HEARING LEVELS (re Audiometric Zero)

Test Frequencies in Cycles per Second	Screening Levels in Decibels ASA	ISO
500 cps	15 dB	25 dB
1000 cps	15 dB	25 dB
2000 cps	15 dB	25 dB
4000 cps	15 dB	25 dB

Criteria for failure at the above screening levels are discussed under E which follows—"Hearing Levels and the Criteria for Failure and Referral."

(2) Threshold Audiometry

For threshold audiometry, the following frequencies should be employed: 500, 1000, 2000, 4000, and 8000 cps. Additional frequencies may be used, however, they are not necessary for identification purposes.

It should be kept in mind that "NORMAL HEARING" is a statistical concept and represents a range of hearing rather than a single level. Fundamentally, the Zero Hearing Level on the dial of the audiometer represents the average threshold level of a particular segment of the general population.[11] Since this is a statistical concept and represents a restricted sample of the population, provision has been made to include as normal minor deviations above and below the zero reference. Consequently, a person's hearing is considered normal if his threshold hearing level does not exceed 15dB (ASA) or 25dB (ISO) at the test frequencies. Since two reference levels are currently in use, it is absolutely essential that audiometric data include a notation regarding which reference level (ASA or ISO) that was employed in making the measurements.

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[11] Zero Hearing Level was established by accepting the modal threshold hearing level of a particular group of listeners as normal threshold; that is, the hearing threshold of the majority of a particular group of listeners.

E. Hearing Levels and the Criteria for Failure and Referral.

(1) Sweep Screening Audiometry

Screening is done at the frequencies 500, 1000, 2000 and 4000 cps at a hearing level of either 15 dB (ASA) or 25 dB (ISO).

A child is considered to have "failed" the screening test if he does not hear any two or more frequencies in the same ear at the screening levels (15dB, ASA or 25dB ISO).

Children "failing" the sweep screening test should be subjected to a second screening identical to the first and judged by the same criteria. The second screening should occur within two weeks of the first test. Those children who fail the second screening should be scheduled for a threshold test. The threshold test is accomplished immediately following the second screening.

(2) Threshold Audiometry

Thresholds are determined for 250, 500, 1000, 2000, 4000 and 8000 cps. A child is considered to have "failed" this test and is referred for an ear, nose and throat examination at, for instance, an otolaryngological screening clinic. If any one or all of the following criteria are met:

a. A hearing level at any one frequency in the range 500, 1000 and 2000 cps of 30dB (ASA) or 40 dB (ISO) or greater.

b. A hearing level at any two or more frequencies in the range 500, 1000 and 2000 cps of 20dB (ASA) or 30 dB (ISO) or greater in the same ear.

c. A hearing level at 4000 and 8000 cps of 35dB (ASA) or 40dB (ISO) or greater in the same ear.

Some comments are in order with respect to these criteria. The frequency range 500-2000 cps is emphasized because it is critical for the acquisition and use of language and speech. A child with a partial or complete impairment in this range functions under adverse listening conditions. As a result, his academic achievement and his emotional and social adjustment are jeopardized.

Further, a hearing loss at 4000 and 8000 cps very often indicates a pathological condition which may be progressive. Because this condition is generally associated with the cochlea and/or the auditory nerve, it is not visible upon otoscopic examination. In these cases parents are sometimes told by the examiner that the medical referral was not necessary. Misunderstanding can be avoided if parents are informed in advance that the referral is precautionary. The examination will reveal, however, whether the condition is remediable. If it is not, then the audiogram and the examination will establish a base line or point of reference for further assessment of any future progression.

F. Testing Environment: Permissible Noise Levels.

(1) Screening Audiometry.

It is essential that the environment in which screening tests are conducted be sufficiently quiet as not to interfere with hearing at the screening levels given in Table V. To attain the necessary degree of quietness, it is desirable that a specific room be designated for the purpose of testing. This may be a multi-purpose room as it will be used only periodically for hearing testing; the critical factor is quietness.

Some common sources of unwanted sounds which must be considered in the selection of a room are: heating units and ventilation motors and fans; toilet and washing facilities; band and choral practice; vehicular and pedestrian traffic; physical education classes and playgrounds. Literally, millions of dollars and thousands of man hours are spent on worthless programs simply because space has been utilized for its convenience rather than its suitability.

It would help considerably if all school authorities would realize: (a) hearing screening is a service to them, to their teachers and especially to the children; (b) learning, academic achievement and a host of other factors which contribute to healthful growth and development are jeopardized by even the mildest hearing handicap; (c) the initial expenditure of money for a suitable testing environment results in substantial savings by avoiding over-referrals and by avoiding more costly rehabilitative services caused by delayed referral.

The levels given in Table VI are the maximum permissible levels of NOISE, in octave bands, which may exist in a testing room during screening.

These permissible noise levels were determined for use with the ASA Standard for pure tone audiometers. However, for all practical screening purposes, these same data can be used with audiometers calibrated on the basis of either the ASA or the ISO Standards.

TABLE VI. PERMISSIBLE NOISE LEVELS FOR SCREENING

Test Frequencies	Octave Band	Noise Levels re: .0002 dyne/cm²
500 cps	300-600 cps	55 dB
1000 cps	600-1200 cps	55 dB
2000 cps	1200-2400 cps	62 dB
4000 cps	2400-4800 cps	72 dB

If the noise in the appropriate octave band is at or below the values given in Table VI, screening can be conducted at the stated screening levels without interference from the noise. In the absence of suitable equipment or experience to measure the noise levels, skilled help[12] should be sought. If such assistance is not available, a gross judgment of the testing environment may be made by the audiometrist.

Such a determination is conducted by the audiometrist determining his own threshold for each of the test frequencies in the test environment. The levels at which the tones are just audible must not exceed the screening levels stated in Table V. If the audiometrist's thresholds do exceed the screening levels, screening may not be conducted at the particular frequency or frequencies until the noise is within the acceptable limits.

(2) Threshold Audiometry

A thorough discussion of permissible noise levels for threshold testing is presented in the American Standard Criteria for Background Noise in Audiometer Rooms.[13] Data presented in this Standard are applicable to the ASA 1951 audiometric zero. Data applicable to the ISO 1964 audiometric zero are not yet available. The permissible noise levels presented in Table VII in the column headed "ISO" are estimates and have been interpolated from the ASA data. Both are in terms of noise levels in decibels of sound pressure re 0.0002 cyne/cm² in octave bands.

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[12] Common sources of professional assistance are physics and/or hearing and speech departments at universities and acoustic consultant firms.

[13] *American standard criteria for background noise in audiometer rooms,* S3. 1-1960. American Standards Association, May 25, 1960.

TABLE VII. PERMISSIBLE NOISE LEVELS (SOUND PRESSURE LEVEL) FOR NO INTERFERENCE ABOVE THE ZERO HEARING LEVEL SETTING OF A STANDARD AUDIOMETER

		Noise Levels re: 0.0002 dyne/cm^2	
Test Frequency	**Octave Band**	**ASA**	**ISO**
250 cps	150-300 cps	40 dB	25 dB
500 cps	300-600 cps	40 dB	26 dB
1000 cps	600-1200 cps	40 dB	30 dB
2000 cps	1200-2400 cps	47 dB	38 dB
4000 cps	2400-4800 cps	57 dB	51 dB
8000 cps	4800-10000 cps	67 dB	56 dB

It will be noted that the permissible noise levels in Table VII are lower than those found in many office and classroom environments and are often attainable only in an isolated and sound-treated room. Appropriate equipment and procedures should be used to determine the suitability of an environment for threshold testing. If these are not available, the audiometrist may use his own threshold determination as a check on the adequacy of the testing environment. This demands, however, that the audiometrist is reasonably certain that his own thresholds at the test frequencies are at zero level or better.

The audiometrist determines the lowest level at which each of the test tones is audible to him in the actual testing situation. The level of audibility must be below the level (criteria) of failure and referral for threshold audiometry (see E). If the tones are inaudible at zero hearing level but audible below the level of a failure and referral, threshold testing may be done. However, the results obtained must be interpreted with care; they may be used as the basis for referral but should not be considered a substitute for a threshold audiogram obtained in an environment having truly suitable noise levels.

G. Equipment

(1) Screening Audiometry.

In the screening stage of identification, audiometers should comply with the recommendation of the International Electrotechnical Commission.[14] The standard pure tone reference for such audiometers is laid down in the International Standards Organization publication R-389.[15] Since there presently exist two standards, the ISO and the ASA, it is necessary to provide an alternative pure tone reference for use with the latter. During the period of transition to the ISO Standard, audiometers meeting the specifications of the American Standards Association may be used.

The equipment described in these standards constitutes a minimum. More comprehensive equipment may be used for screening purposes although it need not provide for bone conduction testing or masking.

(2) Threshold Audiometry.

For threshold testing, audiometers should comply with the recommendation of the International Electrotechnical Commission concerning audiometers for diagnostic purposes. The standard pure tone reference for such audiometers is laid down in the International Standards Organization publication R-389. Since there presently exist two standards, the ISO and the ASA, it is necessary to provide an alternative pure tone reference for use with the latter. During the period of transition to the ISO Standard, audiometers meeting the specifications of the American Standards Association may be used.

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[14] **Pure Tone Screening Audiometers, IEC/R 178-1965—American Standard Association 1965.**

[15] **Standard reference zero for the calibration of pure tone audiometer, ISO/R 389-1964—American Standard Association Nov. 1964.**

(3) Choice of Equipment

Auditory testing instruments may be very impressive and their appearance may imply high reliability. However, the appearance of an audiometer has nothing to do with its stability and accuracy. The purchaser should insist that the equipment meet performances and specifications of recognized standards.

The equipment purchased for individual testing should include a head set with two earphones. This allows for testing each ear independently and eliminates the need to reverse the position of the earphones. Also, head sets with two earphones reduce somewhat the distracting effect of room noise.

Persons using equipment will be interested in following the progress made in the development of the large, earphone cushions or muffs which are designed to enclose the ear and form a barrier against background noises. These circumaural muffs may one day provide a partial answer to problems of interference resulting from noise in environments not specifically planned for hearing testing. Until the difficulties of standardization and calibration have been solved these muffs are unacceptable.

Finally, purchasers and users of equipment should be interested in the simplicity of the design and the ruggedness of the audiometer. Generally, equipment used in screening programs receives a great deal of use. Consequently, money saved on the purchase of inexpensive equipment is lost on constant repair and maintenance. It should be kept in mind that audiometers themselves are a chief source of error in testing programs. There is no short cut to stable and accurate equipment.

(4) Maintenance:

The person who daily operates the equipment is responsible for its care and for checking its operation. He should know his own audiogram and perform daily listening tests to detect any gross changes or malfunctions in the equipment. If apparent changes in the hearing levels are noted, the audiometrist should recheck the calibration of the audiometer preferably with an instrument known as an artificial ear. If an artificial ear is not available the recheck can be accomplished with five listeners known to have normal hearing. Errors of 10 dB or less may be subtracted from or added to the obtained threshold, as appropriate. Errors greater than 10 dB should be corrected by the manufacturer. The audiometrist may replace earphone cords, fuses and line cords but he should not attempt any other repair such as soldering joints and replacing earphones from one audiometer with those from another.

Beyond this type of maintenance, an audiometer should be returned to the factory or a factory-designated regional center for calibration check no less frequently than once each calendar year.

H. For Screening and Threshold Testing

It is essential that persons carrying out audiometric screening and threshold testing receive some minimum training including practice testing supervised by an audiologist.

Minimal training should consist of about fifty clock hours of instruction. Approximately one-half of the time should be devoted to basic information about hearing and hearing impairment and the instrumentation used in hearing testing; the other half should be devoted to supervised practice in testing. Such training should be offered under the auspices of universities and colleges with qualified staff and facilities.

It is also desirable that the course content be standardized so that training will be uniform throughout the State.

Persons working in hearing conservation programs should have opportunity for consultation with an otolaryngologist and an audiologist. Local medical societies can provide assistance in locating board certified ear, nose and throat specialists. Universities with hearing and/or speech programs generally have a certified audiologist on their staff or can assist in locating one.

V. Medical Examination and Evaluation for Children Who Fail Hearing Test

A. Principles of Medical Examination and Evaluation.

1. To determine whether medical care is needed.
2. To provide medical care.
3. To have every child with a recurring or chronic hearing problem seen by an otologist.

B. Procedure.

1. Communication with parents urging visit to a physician with a request for a report. Parents will require assistance in following through particularly if no physician is available; this type of service rests with the local community (e.g., Health Authorities, Board of Education, Medical Aid Agencies and public health and school nurses working in cooperation with the local Medical Society).

2. Following initial medical evaluation, further referral may be urged in conference with parents and/or physician when:
   - a. Physician advises consultation with other medical or hearing specialists;
   - b. Physician has determined his findings to not provide a firm basis for any specific diagnosis, treatment or recommendation to the parents and/or school;
   - c. Physician's examination reveals normal hearing but child continues to function as if communication problem were present.

3. In the presence of the above circumstances, the need for pursuing further consultation should be explained to the parents and with their permission communicated to the physician. Although the initiative in reference to the child's health belongs with parents, there is also major initiative and authority which belongs to the school administration in consideration of educational planning. The direction of further evaluation of alleged hearing loss is twofold:

   - a. A request for information transmitted by the child's parents to their chosen physician as to whether the hearing condition may be expected to improve, stay the same, or become worse based on physician's evaluation of the child's history, medical findings, diagnosis and treatment;

   - b. In the event specific educational planning is contingent upon more information than provided by the child's physician, the school should call for consultation from sources considered to be expert in this area: otologists, hearing evaluation centers.

4. The ideal referral is to a local otologist or an otological clinic. However, at the present time these services are not readily available in some areas. In these areas the responsibility for obtaining these services by referral elsewhere rests with the general practitioner, pediatrician and nurse.
   The following resources may be useful:
   (a) Private otologists.
   (b) Speech and hearing centers.
   (c) Organized clinics for medical services (community hospitals; medical centers-teaching hospital clinics); speech and hearing centers associated with same.
   (d) Illinois Division of Services for Crippled Children.
5. A sample form for referral and report from physician is included in the Appendix.

GENERAL RECOMMENDATION

Legislation should be enacted authorizing the Director of the Illinois Department of Public Health to establish and/or supplement, by formula grant-in-aid, a service of periodic hearing testing for children in order to identify and refer those who may have hearing impairments so that proper and necessary care and attention may be secured. This legislation, in addition to the authorization, should include the following points—

(a) It should be the duty of the Director of the Illinois Department of Public Health, in consultation with the Office of the Superintendent of Public Instruction, to set standards and prescribe rules and regulations, including qualifications of personnel, for testing hearing.

(b) A record of those children who fail a prescribed hearing test should be required on a form provided by the Illinois Department of Public Health and should be maintained by those who are conducting these tests. One copy of each completed form should be forwarded to the Department of Public Health.

(c) The Director of the Illinois Department of Public Health should appoint an Advisory Committee to consult with the Department of Public Health in the implementation of this law.

The Committee should be composed of 12 members, six of whom represent the following: Department of Children and Family Services, Department of Mental Health, Department of Public Health, Division of Services for Crippled Children, Division of Vocational Rehabilitation, and the Office of the Superintendent of Public Instruction. The remaining six members should be selected on the basis of their knowledge of or experience in problems of hearing-handicapped children.

Of the six non-governmental members first appointed, two should serve for a period of three years, two for a period of two years and two for a period of one year. Thereafter, each appointee should serve for a period of three years except that a member, appointed to fill a vacancy, should serve for the remainder of the term of his predecessor.

The Advisory Committee should select a chairman and meet at the call of the Director of the Department of Public Health or the chairman upon 10 days written notice but not less than once in each calendar year. The Committee members other than those representing State agencies may be reimbursed for actual expenses incurred.

The Director of the Illinois Department of Public Health should on request furnish professional consultant assistance to the Advisory Committee.

The representative of the Illinois Department of Public Health should act as secretary of the Advisory Committee and shall furnish all clerical assistance necessary for the performance of its powers and duties.

(d) No child should be required to submit to any test or requirement provided for by this Act if a parent or guardian of the child objects on constitutional grounds and submits a statement of such objection to the agency or group administering the hearing tests.

SECTION VI

SERVICES

A program of services for a special category of children, such as those for the hearing impaired, should be approached as one aspect of the over-all problem of child care. Specialized programs must be given appropriate weight, but consideration should also be given to making specialized services an integral part of the general community services.

Throughout this report the needs of the hearing impaired child have been related to necessary services to meet those needs. In addition, there are a number of specific services which are more involved with the problems of the hearing impaired child. These programs are listed in this Section, and although they are discussed as separate services, full recognition of their interrelation and the importance of cooperative arrangements is important.

These programs usually require either specialized planning or adaptation of general community service.

The interrelatedness and coordination of these services with one another and to the services listed in Section III for Primary and Secondary Prevention and to Section IV on Identification and Medical Referral of Children with Hearing Impairment are not only extremely important but are vital to the successful provision of the services described in this Section.

A. PARENT COUNSELING

Children, whether handicapped or not, have individual personality differences. Each child will meet his problems according to his own pattern. The ability of a child with impaired hearing to make successful adjustments will depend to a great extent on his and his family's attitudes about his problem. One of the most important single factors in framing a child's attitude towards his handicap is likely to be the attitude of his parents.

Professional people who come in contact with the parents regarding specific care for a child are the first line from which parent counseling should be available. These professional people are in a position to give parents an increased understanding of normal growth and development and some insight into the special problems their children face by creating opportunities for them to ask questions and express their feelings. Therefore, conferences with professional workers in which the parents have a chance to talk through their feelings, parent group discussions and home visits by professional people and other parents are all helpful ways of giving needed support and guidance. The continuing interest of professional people in whom the family has confidence—such as a physician, public health nurse, speech therapist, audiologist, social worker, teacher—can be a major factor in developing proper attitudes and expectations.

It is almost universal that parents experience great fear and anxiety in first learning that they have a child with a physical, mental or emotional handicapping condition. Therefore, it is at this point when services to parents of hearing impaired children are vital. By providing early services to these parents, many problems will not develop. Since many parents receive their first counsel from medical personnel who are involved in establishing the diagnosis of hearing impairment, there is a definite need for this personnel to counsel with the parents. When it is no longer feasible or necessary to provide counseling in a medical setting, parents often need help in contacting and making use of other community counseling services.

Continuing counseling of parents is a family service responsibility. Social workers in the typical family agency setting probably do not have expertise in the specific area of hearing impairment. Their expertise, however, lies in the area of helping families cope with various problems which are affecting family life. Workers in such settings need to seek consultation or help parents to do so. The prevailing practice of serving only highly motivated parents through the office interview is not suitable, for sometimes these parents are "hard to reach." These parents must be made to feel that they have a home base to which they can turn at any time.

While the parents of all ages of hearing impaired children need counseling service, the area of greatest need is among families of children from birth to age three, since the preventive potential is greatest at this period. There are a number of problems which impede the provision of constructive counseling services on the part of agencies which now have as part of their function such counseling. Among these problems are—

(1) A general lack of understanding of the impact of hearing impairment upon the family and child among all professions touching upon this field.

(2) A lack of knowledge of existing resources and creativity in the use of these resources.

(3) A lack of coordination of existing services.

(4) A shortage of professional staff in agencies providing family services.

(5) A lag between identification of the handicap and initiation of services to the family.

(6) A lack of continuity of services to families.

There is no voluntary agency operating on a statewide basis which assumes such functions as providing information to the public regarding causes of hearing loss and resources available to deal with the problem, the assessment of unmet needs and the stimulation of needed programs. The one voluntary agency in the State which performs these functions is the Chicago Hearing Society, but this agency is set up to serve only the Chicago Metropolitan area. The only other voluntary organization and groups in Illinois concerned with the needs of the hearing impaired, are the Illinois Association of the Deaf and the various parent groups scattered throughout the State.

One of the hopeful signs in parent counseling is the movement throughout the United States to form and strengthen parent groups of hearing handicapped children. Sometimes professional people are fearful of parent groups. Increasingly, however, professional people are learning to utilize the interests and efforts of parent groups. Generally, parent groups desire and seek professional guidance.

On an over-all basis, the advantages and accomplishments of the parent groups, when given the proper professional guidance and assistance, can be quite remarkable. The contributions of these parent groups can be in a number of areas:

PARENT EDUCATION: Regularly scheduled parent group meetings feature speakers, films, etc., in an effort to further the education and understanding of the hearing impaired child.

PUBLIC EDUCATION: Parent groups seek the aid of all local news media in educating the public about the hearing impaired individual. Public understanding of the impairment plays a vital role in the life of the parents and the handicapped child.

PARENT COUNSELING: Parents exchange ideas and experiences in the rearing of their children. Parents of older hearing impaired children can be extremely helpful to parents of younger handicapped children.

GUIDING "NEW" PARENTS: Parents of hearing impaired children visit with parents who have just learned of their child's deafness. The mere fact of letting these "new" parents know they are not alone helps in a small way to "cushion" their initial shock. Providing information to "new" parents regarding professional assistance is also an important function.

IMPROVEMENT OF SERVICES: Parent groups seek to be knowledgeable on local, state, and national legislation concerning all facets of hearing impairment and take an active part in supporting desirable legislation and opposing undesirable legislation. They also associate with the State, National and International associations concerned with improvement of services and opportunities for hearing impaired.

One of the most important areas on which parental help is needed is in the development of communication between themselves and the child at a very early age. When this is done, the educational experience of the child is more likely to be effective. When it is not done, it is very difficult to make up those lost years.

Training can be started in infancy, but the parents must be taught how to help their child. If the proper help can be given to parents early, the educational deprivation which so many hearing impaired children are now experiencing, could be minimized.

There is a great difference of opinion as to which of various methods of language communication are the best—oral, language of signs, or fingerspelling or some combination of these methods. Each method has advantages and disadvantages for individual children, and each child should be given the opportunity to learn the method which is most suitable for him. The most significant aspect in parent counseling on this subject, is to give parents an understanding of the importance of the acquisition of language and the broad concept of communication. Rigid insistence upon only one method of communication is likely to be a great disservice to the parent and the child.

We should remember that the child must live among persons in a hearing, speaking world and his method of communication should be such that he is not forced into isolation or into association only with other similarly handicapped individuals.

Parent counseling must include information on the differences of individual children, including their personality and intellectual potentialities. One of the difficult areas in providing services, particularly vocational and educational services, is due to failure to help parents understand what their child may realistically be able to achieve.

RECOMMENDATIONS ON PARENT COUNSELING

(1) More attention should be given to the value of parent counseling by parents of other hearing impaired children and of the utilization of parent groups to be an appropriate and effective vehicle for parent counseling and parent education.

(2) The Department of Children and Family Services should take leadership in developing a brochure for parents of very young hearing impaired children, in cooperation with the Division of Services for Crippled Children, the Office of Public Instruction, the Department of Public Health, and those public and private organizations offering a parent information service. In the development of this publication, one objective should be utilization of a common and simplified terminology for counseling with parents. It should also include the kinds of counseling which are available from different resources.

(3) Since there is such great need for proper orientation of various professional persons who come in contact with the parents of a child both as to the implications of hearing impairment and resources to meet the needs of the child and the parent, all agencies with programs for hearing impaired persons should consider a number of methods for making their material available, including the use of regional workshops sponsored by a single department or agency, or by several joining together.

(4) The agencies conducting the Parents Information Series and the summer Parents Institutes should extend these programs to a regional basis and should explore the possibility of holding them at more frequent intervals.

(5) An evaluation should be made of the Parents Information Series and the summer Parents Institutes at Jacksonville in terms of referrals, program and follow up. Such a study might be arranged through a University.

(6) The Department of Children and Family Services should develop and coordinate family counseling services for parents of deaf children and serve as a resource for information on availability of these services.

(7) Professional people who provide counseling services to hearing impaired individuals or their parents, should devise ways of making use of the unique contribution of the parents who have had similar experiences. Such parent counseling by another parent could be much more constructive if it were done under the direction and guidance of the professional counselor. Parent groups should make known their availability for such services to appropriate professional personnel.

(8) There should be a statewide voluntary agency with the following responsibilities listed in order of priority:

a. Informing and educating the public concerning the hearing impaired and their needs

b. Supporting programs of prevention and identification

c. Coordinating legislative efforts

d. Discovering unmet needs

e. Stimulating the development of needed programs

f. Channeling requests for assistance to appropriate agencies and services

(9) A planning grant should be sought from a private foundation or governmental agency to establish a statewide voluntary agency on the hearing impaired. This could be done in one of two ways.

a. The Chicago Hearing Society under the auspices of a representative statewide board could apply for the grant with the purpose of expanding its functions to encompass the entire state.

b. An agency or institution such as the Illinois Commission on Children or a university might apply for the grant involving existing organizations in developing a statewide voluntary agency for the hearing impaired.

B. THE EDUCATION OF HEARING IMPAIRED CHILDREN IN ILLINOIS

Introduction and Elementary Education Program

The School Code of Illinois, Article 14, as amended by HB 1407 in the 74th General Assembly, mandates that special education services shall be provided for all handicapped children by July 1, 1969. This mandate places heavy responsibility on the Office of the Superintendent of Public Instruction for the development and implementation of educational programs and services which can meet the needs of hearing impaired children.

Many specific improvements are needed in the education of hearing impaired children in Illinois. The basic problem is that many such children are educated in day classes or small groups of classes scattered throughout the State. Experience in educating deaf children indicates that this is not a desirable practice. A sufficient number of deaf children (probably a minimum of 80-100) need to be concentrated in any one program in order to provide homogeneous grouping in classes, good educational supervision, and a number of ancillary psychological, audiological, and social services which are essential for a good educational program.

One solution to the scattered groupings of deaf children in day classes is residential schools. Any residential school, however, involves a considerable separation of the child from his family and from the mainstream of society. Such separation might be inevitable for the profoundly deaf child simply by virtue of his deafness, since involvement in family and society is heavily dependent upon free and easy communication, something which most deaf children lack. However, attempts to involve the deaf child more fully in the general culture, which is a major point in the philosophy of the day class programs, should not be abandoned until all possible avenues affecting such involvement have been exhausted.

Deaf children,* those whose hearing loss prevents them from learning language through their hearing, require highly specialized instruction because of their difficulties in language and communication skills. As critical as this is, specialized teaching in itself is not enough. It is important that the deaf child, particularly the young child, become as familiar as possible with the culture of the hearing world by participating in daily family activities and by interacting with hearing siblings and peers. Home, school and neighborhood experiences should alleviate somewhat the potential cultural handicap of the deaf child.

Those hard-of-hearing children,* whose hearing loss prevents them from making full use of their hearing for spoken language, likewise require specialized educational instruction and attention to their emotional well-being. Because the hard-of-hearing child develops some language independently, his real needs are frequently overlooked, a situation which often compounds his problems. Some of these children may be able to attend regular school classes but with additional help, in the form of language work, communication work, and remedial work in classroom subjects. Other hard-of-hearing children need full-time programs of specialized teaching for at least part of their school careers. Severely hard-of-hearing children, for example, often require intensive programs in special classes for a number of years with gradually decreasing amounts of special work and gradually increasing participation in regular classes as they progress in school. The amount and type of special education depends upon the child's degree of loss as well as upon other factors.

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*Definitions of terms in the School Code and Rules and Regulations are included in the Appendix.

The needs of both deaf and hard-of-hearing children vary considerably according to the degree of hearing loss, age of onset, intellectual ability, home environment, age at which educational management is begun and many other factors. The important thing is that all hearing impaired children receive the special education necessary to their changing, functional needs, on the basis of their individual differences.

The total program* would include all features necessary to a sound educational program for deaf and hard-of-hearing children, such as: (a) a program of early identification, (b) a comprehensive hearing conservation program, (c) home visitation programs for very young children and locally based nursery programs, (d) parent education, (e) a program of language, subject matter and communication for hard-of-hearing children attending their local schools, (f) a centrally located program for primary and elementary deaf children, (g) provisions for the use of the newest concepts in educational procedures, instructional media and auditory education, (h) prevocational and vocational counseling, (i) academic and part-time work study experiences for older children—these programs to be coordinated with all local and State resources which can strengthen the total program.

Early education of the very young deaf child should begin with a strong auditory-oral approach. There will however, be a wide variation in the educational needs of hearing impaired children. Hearing losses will range in severity along a continuum from slight to profound. Such individual differences will demand that full use be made of both the auditory and visual avenues of learning.

For most hearing impaired children, the auditory channel even though impaired will be the primary modality for language learning. For these children full utilization should be made in the use of modern amplification equipment and in the training of the residual hearing at home and at school.

For other children vision will be the primary avenue for language learning. For some of these children, combined visual methods of instruction should be considered, using both oral and manual communication (fingerspelling and/or language of signs) in the most effective manner possible, at home and at school. The time for incorporating this combined method of communication instruction should be based on careful evaluation of the child.

More research is needed before the needs of these children are fully understood and appropriate educational programs developed.

Since each child will have varying potentials for learning, influenced by such factors as degree and onset of hearing loss, mental ability, physical capability and home environment, as well as possible limitations caused by other handicapping conditions, a spectrum of services should be provided ranging through specialized centers, special rooms, resource rooms, itinerant and tutorial programs in order to meet the needs of every child. In addition to the program in a specialized center, special classes for children with moderate to mild hearing losses should be developed locally and a strong preschool program with infant and parent education must be coordinated with the regional program. In this way a child can receive education in the full-time program of the School Center, or in a resource room, or itinerant teaching situation in his home community, according to his ability and progress.

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*A demonstration project is underway, "A Planning Proposal for a Regional Center and Comprehensive Services for the Education of Hearing Impaired Children from Rural and Small Urban Areas, Champaign Unit 4 Schools, under Public Law 88-164.

The committee believes much harm has been done to hearing impaired children through uncritical acceptance of the principle of the desirability of integrating handicapped with non-handicapped children in educational programs. While it is important that hearing impaired children have opportunities to interact socially with their peers, this factor should NEVER take precedence over his having a maximum opportunity to learn language and the communication skills.

In order to provide the most nearly complete educational program possible for hearing impaired children, the regional programs should develop special diagnostic and training services to provide special counseling and communication and language training for parents and children prior to the child's enrollment in the school program. These services should be available to hearing impaired children and their parents from the time of identification, regardless of age, until the time of enrollment in school. These services could be provided either at the regional diagnostic-evaluation center or through itinerant service from the center.

The regional program must be under the direction of an experienced educator of the hearing impaired. In addition to advanced preparation as a teacher of the hearing impaired he should have adequate preparation in supervision and curriculum development and an orientation to the theory and methodology underlying the education of children with handicapping condition other than hearing impairment. An adequate number of qualified teachers, supervisors and educational and vocational specialists must be maintained.

Special diagnostic staff is essential, such as the specialists of the child-study-team, all of whom must have training and experience in working with hearing impaired children. Basic to the regional program is a diagnostic-evaluation process focused on educational implications conducted by a child-study-team. The team should include an educator of the hearing impaired, who would have major responsibility with psychologist, audiologist, social worker and other professional personnel as indicated in supporting roles. All members of the team should be qualified in their own fields and with special training and experience with hearing impaired children. Provision should be made for utilizing consultants as needed.

To adequately serve hearing impaired children centralized facilities must be provided within regional programs. They should be planned to utilize to the fullest extent possible facilities provided for all children. However, the complexity of the educational problem demands that special equipment and facilities be provided such as acoustic treatment of rooms, special built-in equipment for both auditory and visual teaching, and visual features for the safety of hearing handicapped children and that this may necessitate centralization of facilities.

The regional programs should provide for children from the preschool up to the secondary school levels. Beyond the elementary level, planning should be based on intensive individual study to determine whether the student should be enrolled in (1) a local secondary program with special assistance from resource teachers of the hearing impaired; (2) special secondary programs for the deaf as residential or day students. In any event, a secondary program for the deaf should provide the wide range of program and the resources that exist in adequate secondary programs for hearing children. Special high schools for those who are unable to function in the regular high school would result in large enough numbers of deaf students being concentrated in each center to permit the type of comprehensive high school program which is now lacking in the education of the deaf throughout most of the country. At least two special secondary programs should be considered at this time—one in the Chicago area and one downstate. It should be noted that a strong basis for a secondary program downstate already exists in the Illinois School for the Deaf in Jacksonville.

SUMMER PROGRAM

Because of the special educational problems and deficiencies of hearing impaired children, summer programs should be provided in all regional and State programs for the hearing impaired.

SECONDARY EDUCATION PROGRAMS

I. For the Deaf—

Deaf children in the high school age range can be grouped in four categories: (1) those who have an academic achievement level and communication skills which make it possible for them to make satisfactory progress in a regular high school with the help of resource teachers; (2) pupils who have the intellectual ability and achievement level to do high school work but who lack the speech and lipreading ability to succeed in an ordinary secondary program even with the help of resource teachers; (3) young people with adequate oral communication skills but lacking in the academic achievement and/or intellectual capacity for secondary school work; and (4) pupils with inadequate communication skills and without the academic level and/or intellectual ability for high school subject matter.

Services available in Illinois for deaf teen-agers at the present time are (a) special programs in local high schools in which deaf students take most of their subjects in regular classes and receive special help from a teacher of the deaf; (b) self-contained special classes in regular high schools for deaf children who cannot be integrated into regular high school classes; (c) work-study programs; and (d) the Illinois School for the Deaf high school program which has an academic track, a general track, and a work-study program.

In order to provide each Illinois deaf child with an appropriate education, it is recommended that—

1. Students in category (1) above continue to be integrated into regular high schools.
2. Students in category (2) be considered for enrollment in the secondary programs where communication involves the simultaneous *use of speech and fingerspelling or manual signs.*
3. Young people in category (3) be enrolled in local or regional special secondary programs for low-achieving high school age pupils with special assistance.
4. Pupils in category (4) should be enrolled in local work-study or other special programs, probably in cooperation with the Division of Vocational Rehabilitation if there are enough such students in the area to warrant the development of this program. There probably are enough students in this category in Chicago. Pupils in category (4) from many areas of the State should be enrolled at Illinois School for the Deaf.

II. For the Hard of Hearing—

By the secondary level communication skills should be so well developed that the hard-of-hearing child could be successfully integrated into the regular classes with tutorial and/or special assistance.

THE HEARING IMPAIRED CHILD WITH ADDITIONAL HANDICAPS

Children with handicaps in addition to hearing impairment for example the physically handicapped, mentally handicapped, visually handicapped, emotionally disturbed, and perceptually handicapped have been enrolled in schools for the deaf for many years. In some cases, these children have minimal hearing losses, but have been misdiagnosed. In other cases, the hearing loss would necessitate education as a hearing impaired child even though the second handicap were not present. Some of these multiply handicapped children adjusted quite well to the program in the school for the deaf and probably were educated better there than they would have been in any other educational setting. Others have made little progress and have limited the progress of their peers. Some have been denied an education because no programs were available. It is imperative that the program for multiply handicapped hearing impaired children be carefully studied.

The multiply handicapped hearing impaired require special methods of teaching, a greatly enriched school setting (material and equipment) and a high degree of interdisciplinary cooperation. The tasks facing educators of these children are:

(1) developing appropriate diagnostic procedures and facilities;
(2) developing specialized instructional programs and facilities;
(3) defining reasonable limits regarding the types and degrees of multiple handicaps that can be served in the various educational programs; and
(4) participating in the placement in appropriate programs and facilities of those children who cannot profit from educational programs under their direction.

RESPONSIBILITY FOR EDUCATIONAL RECOMMENDATIONS

The responsibility for making educational recommendations and for determining educational adjustments and placement of hearing handicapped children rests with the qualified educator of the hearing impaired. Failure by some specialists to understand the significance of early hearing impairment in children and failure to recognize the dangers of even a mild degree of hearing loss on the total development of the child, frequently can result in gross misunderstanding of the educational needs of hearing impaired children as well as result in unnecessary delays in providing the proper educational services.

The experienced educator recognizes, however, that any successful recommendations for hearing impaired children must be based on a thorough knowledge of the child's ability to function in his environment, as evaluated by skilled professional diagnosticians on an interdisciplinary basis. Each of these professional persons must recognize his unique role in the total evaluation, and he must also understand that he can make his greatest contribution only as he gains insight into this child who lacks the ability to function auditorially. With increased understanding of the impact of hearing impairment on the total development of the child the role of each specialist becomes apparent. The otolaryngologist, pediatrician, audiologist, psychologist, speech pathologist, social worker and educator each has specific skill and knowledge which must be shared and which is of critical importance to the successful guidance of parent and child.

Among the most frequently encountered misconceptions causing mismanagement of hearing impaired children are the following:

(1) the significance of hearing impairment remains unrecognized
(2) the hearing handicapped child should wait for school enrollment until the usual school age of six years
(3) the problem of hearing handicap is primarily one of speech
(4) educational retardation justifies placement in classes for the mentally retarded

(5) the educational needs of the child are often minimized.

At the present time, the responsibility for making educational recommendations is not being assumed by the educator of the hearing impaired. In part, this is because of the extreme shortage of well-qualified personnel and in part by the present limitations of the school programs in regard to programs of identification and education. The educator of the hearing impaired must assume a continuing role from the point of the identification of hearing loss. It is his responsibility to assist in the educational screening, to interpret the educational needs from the accumulated diagnostic information and to make the follow-up educational recommendations.

This responsibility for the over-all guidance of the educational program for hearing impaired children demands a high degree of competency. Only through mutual professional respect can all disciplines work together in assessing the total needs of the hearing impaired child and in providing a program of total services, of which education is a part.

CHICAGO

The most critical problem relating to the hearing impaired in the Chicago Public Schools is the lack of a qualified educator of the deaf who has direct responsibility for all aspects of the program for the hearing impaired. The administrative structure of the Chicago Public Schools places the responsibility for recruitment, certification and assignment of teachers, class organization, the instructional program, etc., in the hands of department heads, district superintendents, and school principals who are not required to have professional knowledge of the education of deaf students. Since the education of students with hearing impairment differs greatly from general education, it is essential that the total program for the education of the hearing impaired in Chicago be administered by a professionally qualified educator of the deaf. Special consideration should be given to previous studies which have recommended that programs for deaf students at the elementary level should be consolidated into three elementary centers located so that travel time for students is kept to a minimum. The recommendations for diagnostic-evaluation centers and a metropolitan area special high school made in other sections of this report should apply to Chicago as well as to the rest of the State.

In Chicago, teachers of the hearing impaired are required to be certified in elementary education, to meet course requirements and to take examinations, written and oral, in general elementary education. This is in addition to meeting State of Illinois course requirements as a teacher of the hearing impaired.

These complicated requirements and the delay in assigning teachers discourages those who are qualified and has led to the assignment in classrooms for the hearing impaired in Chicago of unqualified substitute teachers. In addition, these people have had no preparation as teachers of the hearing impaired. The Chicago system should accept the standards for teachers of the deaf and hearing impaired established through the Office of the Superintendent of Public Instruction.

Strong emphasis should be given to uniform minimum standards for the education of hearing impaired children throughout the State and all stipulations for regional programs should apply to all areas of the State.

COORDINATION OF PROGRAMS FOR THE HEARING IMPAIRED IN ILLINOIS

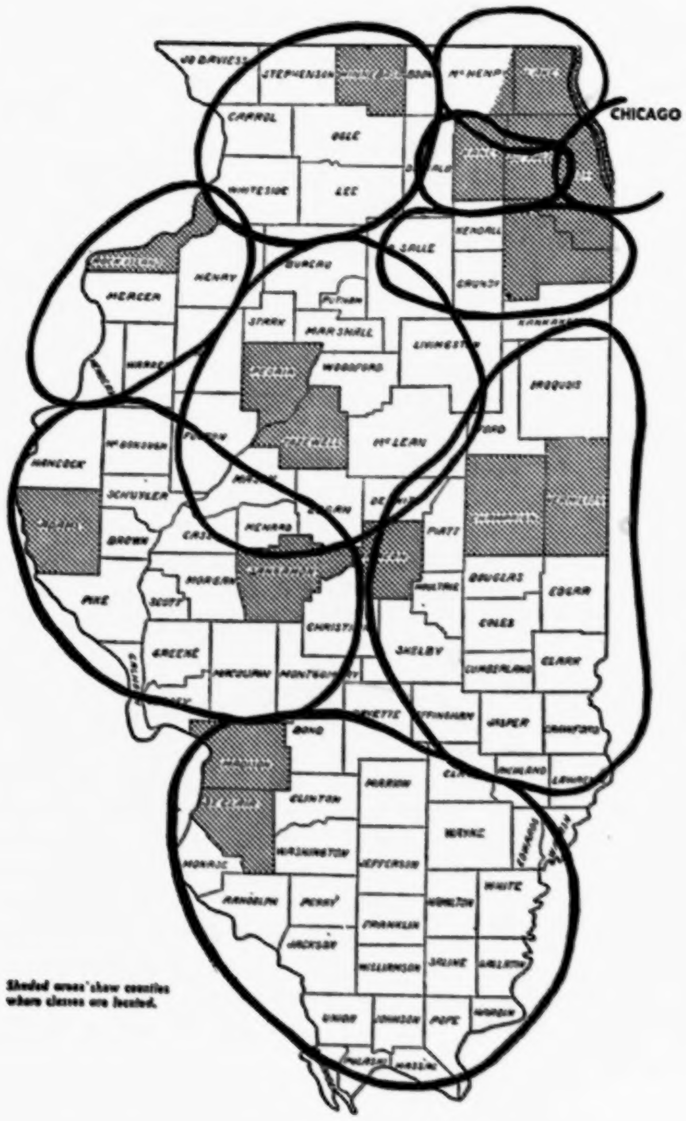
The establishment of a professionally sound system of educating hearing impaired children in Illinois will require careful coordination at several levels. Lack of coordination is a major defect in the system which now exists. Until 1964, school systems had been free to establish one or two classes of hearing impaired children without any consideration for the education of the children when they had outgrown what these classes had to offer. Since 1964, they have been required to have a minimum of six classes at the elementary level in addition to preschool level programs. A program with only a few teachers cannot expect to offer a hearing impaired child an education from preschool through high school which is comparable to that available for children who are not hearing impaired. Regional programs could solve this problem, but only if good planning and coordination are provided.

There is also a need for coordination between the school for the deaf and the regional program if effective transfer of students on a reciprocal basis is to be effected.

The head of the regional program and representatives of professional staff should meet with the Admissions Committee of the residential school whenever a child referred by a specific region is considered for admittance. An on-going schedule for admission consideration would permit residential school staff to travel to regional programs throughout the year to consult with the professional staff who provided services to the children they have referred.

The proposed regional programs would need to draw students from a number of counties and local school districts because of low incidence. Coordination at this level should be the responsibility of the head of the regional program who will be advised by a Committee consisting of the appropriate administrators from the school districts involved. The person heading each regional program should be a qualified educator of the hearing impaired with full responsibility for operation of the program and its ancillary services. Each regional program must be coordinated with the State residential-day programs for children in need of these services.

Current planning areas (1968) are based on the following criteria. Programs must be (a) located in a populated region, (b) capable of enrolling a minimum of 80-100 children and (c) located within a radius of two hours weekend travel time to their homes.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WAYNE
WASHINGTON
JEFFERSON
EDWARDS
MONROE
RANDOLPH
PERRY
HAMILTON
WHITE
FRANKLIN
JACKSON
WILLIAMSON
SALINE
GALLATIN
UNION
JOHNSON
POPE
HARDIN
PULASKI
MASSAC
Shaded areas show counties where classes are located.

The Committee on Hearing Impaired reviewed these criteria and found them to be realistic for comprehensive program devlopment. Two additional criteria were added—(a) boundaries should remain flexible to allow for change, (b) decisions should continue to be made through local planning.

The Illinois School for the Deaf should continue to be administered by a professionally qualified educator of the deaf. Ways should be sought to coordinate the school program with the total system of educating hearing impaired children in the State.

There should be uniform standards throughout the State and all stipulations for regional programs should apply equally to Chicago and other areas of the State. This means that the State Special Education Rules and Regulations of the Office of the Superintendent of Public Instruction should be complied with in regard to all standards, among them:

1. the State standards for the total development of the program
2. the State standards for the supervision of the program by qualified educators of the hearing impaired at all levels
3. the State standards for certification of qualified teachers and other staff
4. the State standards for physical facilities

Standards for the development of all regional programs must be governed by *the School Code of Illinois,* and *the Rules and Regulations of Special Education.* Such rules must be developed in cooperation with educational leaders in Illinois and must apply to all facets of the educational program and to the qualifications and approval of special education personnel.

Regulatory and coordinating functions should be supplied for the entire State through a professionally qualified staff in the Office of the Superintendent of Public Instruction. In addition, there must be established within the State an Advisory Council for the education of hearing impaired with coordinating and development responsibilities. This would develop greater coordination between the Office of the Superintendent of Public Instruction, Regional and local programs and other State Departments which have some administrative responsibility for education of hearing impaired, such as the Department of Children and Family Services (School for the Deaf) and the Department of Mental Health (hearing impaired children in their institutions). This Council should include the heads of all regional and State school programs for the hearing impaired in the State, professionally qualified personnel in the ancillary services such as psychology and audiology, and such other professionally qualified personnel as might seem desirable. This Council should advise the Departments on establishment of new programs, standards for programs, certification requirements for personnel, and all other pertinent matters.

Coordination of the Regional Programs on a statewide basis with programs and services of other State agencies dealing with hearing handicapped children should be effected by regular action of the Advisory Council for the Education of the Hearing Impaired.

The proposed system should result in coordinated programs for hearing impaired children throughout the State of Illinois. The regional schools, the State school, and the schools in Chicago would be able to provide a sound educational program with appropriate ancillary services for these children from the time of identification of hearing handicaps through academic and vocational programs. The staff in the Office of the Superintendent of Public Instruction and the Advisory Council for the Education of the Hearing Impaired should insure high educational standards in all of the programs and provide the necessary flexibility for transferring children from one program to another whenever necessary.

RECOMMENDATIONS FOR EDUCATION

1. There should be a statewide coordinated program for the hearing impaired utilizing all local and state resources.

2. A permanent Advisory Council for the Education of the Hearing Impaired (ACEHI) should be established by the Office of Superintendent of Public Instruction in cooperation with the Department of Children and Family Services, to implement the coordinated program. This Council would advise the Superintendent of Public Instruction and other state and local agencies.

This Council (ACEHI) should include the heads of all regional and State school programs for the hearing impaired in the State, professionally qualified personnel in the ancillary services such as psychology and audiology, and such other professionally qualified personnel as might seem desirable.

3. Comprehensive educational programs should be developed on a regional basis. The complexity of the educational problem demands that special equipment as well as special facilities be provided.

4. The legal basis for forming joint agreements for special education should be reviewed by the Office of Superintendent of Public Instruction to determine whether or not they can be made more adequate for implementing regional programs for the hearing impaired. Particular attention should be given to funding, construction and ownership of facilities.

5. Coordination of the Regional Programs on a Statewide basis with programs and services of other State agencies dealing with hearing handicapped children should be effected by regular action of the Advisory Council for the Education of the Hearing Impaired.

Further coordination between the residential school and the regional programs needs to be effected by the Advisory Council on the Education of the Hearing Impaired (ACEHI). Recommendations from this coordinating group should effect all educational programs in the state.

6. The regional program should be under the direction of an experienced educator of the hearing impaired.

The responsibility for making educational recommendations should rest with the Educator of the Hearing Impaired and he must assume a continuing role from the point of identification of the hearing loss.

7. Basic to the regional program is a diagnostic-evaluation process focused on educational implications and this process should be conducted by a child-study-team.

8. An adequate number of qualified teachers, supervisors and educational and vocational specialists should be maintained.

9. These regional programs should incorporate features of both the day class and the residential school.

10. Each regional program should provide for enrolling a minimum of 80-100 deaf children who live within a maximum travel time of two hours from school. These schools should operate on a residential basis only during the regular school week with all children being required to return home on weekends.

A plan should be developed to provide for a five-day living arrangement for education away from home for children who need this. This should be determined on an individual basis by the Department of Children and Family Services and the Regional Program for the Hearing Impaired, after consideration of all available alternatives.

11. A spectrum of services should be provided ranging through specialized centers, special rooms, itinerant and tutorial programs in order to meet the needs of every child.

12. Each regional program should develop special diagnostic and training services to provide special counseling for parents and communication and language training for children prior to the child's enrollment in the school program.

13. The regional program should provide for children in the preschool through the secondary school levels.

14. A local secondary program should provide resource teachers of the hearing impaired.

15. Full utilization should be made in the use of modern amplification equipment and in the training of the residual hearing at home and at school for most hearing impaired children.

For some of these children combined visual methods of instruction should be considered, using both oral and manual communication (fingerspelling and/or language of signs).

16. A special secondary program for the deaf should provide residential and/or day classes. In order to provide each Illinois deaf child with an appropriate education—

- a. special programs should be provided in local or regional high schools in which deaf students take most of their subjects in regular classes but receive special help from teachers of the deaf;
- b. in regular high schools there should be provided self-contained special classes for deaf children who cannot be integrated into ordinary high school classes;
- c. students in work-study programs should have special assistance but be enrolled in local or regional special secondary programs for low-achieving high school age pupils;
- d. students enrolled in work-study or other special programs should participate in the program of the Division of Vocational Rehabilitation;
- e. pupils from many areas of the State will be enrolled at the Illinois School for the Deaf in its several programs.

17. At least two special secondary education programs for the deaf should be provided—one in the Chicago area and one downstate.

18. The program for the hearing impaired in the Chicago Public Schools should include:

- a. policies and procedures that conform with state standards
- b. the administration of the program by a professionally qualified educator of the hearing impaired to whom is delegated the complete authority and responsibility for the coordination and administration of the program
- c. the consolidation of programs for deaf students at the elementary level into three elementary centers located so that travel time for students is kept to a minimum
- d. the establishment of diagnostic evaluation centers and a metropolitan area special high school
- e. the programing for hard of hearing children, separate from deaf children, and including extensive participation of these children into regular programs, as indicated

f. a complete review of certification standards for teachers of the hearing impaired and procedures for employment.

19. The Illinois School for the Deaf should continue to be administered by a professionally qualified educator of the deaf.

20. The school program of the Illinois School for the Deaf should be coordinated with the total system of educating deaf children in the State.

21. Special programs should be developed for the hearing impaired child with multiple handicaps.

22. Summer educational sessions should be provided for the hearing impaired by all regional and state programs.

23. Financial assistance should be provided to parents who cannot afford to transport their children to clinics and parents' institutes.

24. The Office of Superintendent of Public Instruction should review and develop certification standards for professional personnel working with hearing impaired children.

25. Standards for the education of hearing impaired should be uniform throughout the State and apply equally to Chicago and other areas of the State as well as to local and regional programs.

26. Regulatory and coordinating functions should be supplied for the entire State through a professionally qualified staff in the Office of the Superintendent of Public Instruction.

27. The education of the hearing impaired child should begin at the time of identification regardless of age. The School Code of Illinois should be revised to permit educational services for hearing impaired children below three years of age.

28. The Regional Educational Program should develop an adequate diagnostic service within its program responsibility, but there may be need for more specific depth services which universities and hospitals can provide. These depth services should be developed in conjunction with the Regional Program.

29. Increased emphasis should be placed on recruitment and preparation of personnel.

30. Since programs for the hearing impaired are more costly than most special education, increased financial support is essential. The Office of the Superintendent of Public Instruction should devise a program for increased state support for approved hearing impaired programs.

C. THE ROLE OF UNIVERSITY CLINICS AND LABORATORY SCHOOL PROGRAMS IN SERVING THE HEARING IMPAIRED CHILD

University clinics and laboratory school programs have played an important role in providing diagnostic services and educational programs for hearing impaired children in Illinois. Many hearing impaired children, particularly in downstate areas would have received little or no professional assistance had it not been for university operated programs and the Illinois School for the Deaf.

The principal reasons universities maintain clinical and laboratory school programs for hearing impaired children are to:

1. Provide research opportunities for faculty and students.
2. Provide clinical and practicuum experiences for faculty and students.
3. Provide services for hearing impaired children.

Services provided children in university based programs are by-products of the first two functions. Seldom, if ever, is service the primary reason for a university's maintaining clinical and laboratory school programs.

There are disadvantages involved in providing services in facilities which are operated and controlled solely by universities. Since service provided by a university operated program is a by-product of research and practicuum experiences for students and faculty members, it often lacks in the very important ingredients of follow-up and continuity of program. As the universities' needs wax and wane, the quality, continuity and amount of service provided by universities to hearing impaired children is likely to vary. Also, it should be recognized that universities' budgetary priorities usually place service well down in the hierarchy of fiscal support. As a consequence, it is difficult to support such programs of service at the desired level.

Under Titles III and VI of the Elementary and Secondary Education Act, there is a great potential for future support of community and state-operated programs for the hearing impaired. House Bill 1407 of the 74th General Assembly amending Article 14 of the School Code makes it mandatory that public schools provide services for hearing impaired children and provides financial support. Standards framed for the implementation of mandatory special education legislation virtually force public schools to plan for the hearing impaired on a regional basis. A number of multi-county programs for the hearing impaired have already been organized or are in the process of organization. Priorities in the utilization of Title III and Title VI funds of the Elementary and Secondary Education Act encouraging the provision of "back-up" diagnostic and remedial services for all types of handicapped children on a regional basis have been set at the highest level. It would seem that the best possible place to do research and provide practicuum experiences for students and faculty members would be in well-designed and well-operated community and residential programs for hearing impaired children. When coordination is not built in between university clinical and laboratory facilities and community programs competition and fragmentation results and services for hearing impaired children are weakened.

RECOMMENDATIONS

1. Universities and regional programs for the hearing impaired should work out formalized, cooperative agreements in which the regional program takes the primary responsibility for providing services and educational programs and the universities take the primary responsibility for the research and practicuum aspects of the program.

2. The Office of the Superintendent of Public Instruction should develop legislation to establish and fund clinical teaching centers located strategically throughout the state to provide "back-up" diagnostic and clinical services for special education programs. These clinical teaching centers should be operated jointly by school authorities and universities.

D. PSYCHIATRIC SERVICE PROGRAMS

At present the State of Illinois is providing very little mental health treatment for hearing impaired mentally ill children and adults. Custodial care in state hospitals is given to those deaf persons society is unable to tolerate, but this care is more a protection and convenience for society than a treatment effort in the interest of the deaf patients. Furthermore, misdiagnoses by psychologists and psychiatrists who confuse the language disability, vocalizations, and educational lag due to deafness with mental retardation, schizophrenia, and autism have led to the hospitalization of deaf individuals whose problems were increased rather than alleviated by this inappropriate placement.

RECOMMENDATIONS FOR PSYCHIATRIC SERVICE PROGRAMS

Several steps need to be taken to begin to correct this lack of "care" of mentally ill deaf children and adults. These must be based primarily on preventive measures because results of behavior modification in its present stage of development are not encouraging. With this as a frame of reference, the following measures are recommended:

1. Deaf patients presently in state hospitals must be identified (most are not now) and grouped. This should be done by forming small units of 25 or 30 patients in hospitals near large population centers. These units should serve adults and children needing inpatient services, as well as those needing outpatient treatment. Such a centralization of facilities makes possible the efficient use of the limited qualified professional staff available to work with disturbed deaf people. It enables community specialists in deafness, such as educators, rehabilitation counselors, and others to coordinate their efforts at returning and/or maintaining deaf patients in the community. By the same token, the Department of Mental Health would then be in a position to offer schools and other agencies treatment for children instead of anti-therapeutic isolated institutionalization. Then and only then will the concept of community mental health, which is the basic rationale for the present program of the State Department of Mental Health, be meaningful in terms of the deaf youth and his parents.

2. Regular summer institutes concerning deafness and its effects are needed to educate the mental health professions (psychiatrists, psychologists, social workers, etc.) that will serve deaf children and adults in the State of Illinois. The problems of deafness, and the related brain damage which sometimes accompanies it, require greater ratios of psychiatrists, psychologists, and social workers than is required for the general population. In order for these persons to function effectively, it is imperative that they be trained in working with deaf people as well as being fully qualified in their specialties.

3. Universal counseling for parents of young deaf children must be started in conjunction with planned early identification and education. In such counseling, great care must be taken to develop in parents a realistic acceptance of what deafness is and how to cope with it in ways that help the deaf child and yield paternal satisfactions. Parents should be made aware of the great difficulties created by deafness in the development of communication skills, educational achievement, and socialization.

4. A special type of counselor-teacher needs to be prepared for work with deaf infants, preschoolers, and parents in home training and parent counseling. Good counseling and training in the first few years of life might do much to alleviate the effects of deafness including its effects on emotional adjustment.

5. A major goal for the deaf child is the development of language and communication. This is necessary for good emotional and social adjustment as well as academic and occupational development. Since purely oral communication is extremely limited in the deaf child during his early years, and often throughout his life, consideration should be given to the use for selected children of the language of signs and fingerspelling by the child, his parents, and all those who work directly with him. Development of oral communication should remain a primary goal and every reasonable effort should be made to develop it to its fullest extent in each child.

E. SOCIAL AND LEISURE TIME NEEDS OF THE HEARING IMPAIRED

Learning to function as a member of a group is essential in the development of human relationships and in preparation for meeting life's challenges. Through participation in social and recreational group activity opportunity is provided not only for having fun and developing social skills, but also for learning to deal with frustrations on a constructive level. Professor Paul Simon of the Jane Addams School of Social Work, University of Illinois has said "For most children the period of growth from an infant to adolescence is accompanied by a series of group experiences through which he learns to relate himself to a variety of personalities and through which he develops his concept of self as a social being."[16]

Unfortunately most children who have severely impaired hearing, particularly those who are deaf, are less able to take part in group social and recreational activities which are available to normally hearing children. This is due primarily to the difficulties of communication resulting from the hearing loss. In a study "Social Status of Physically Handicapped Children" by Dewey Force, Jr., then Assistant Professor of Special Education, University of Georgia, Athens, it was found that ". . . children with hearing defects were chosen less as playmates than all other handicapped children except those with cerebral palsy."[17]

In recognition of the need to provide group social and recreational opportunities for the hearing impaired, the Chicago Hearing Society has for more than twenty years carried on a group work program for hearing impaired youths and adults under professional leadership. Because it was found that very few deaf and hard of hearing children had opportunity for after-school social activities, the Society in 1952 expanded its group services to include children from the special education classes in the Chicago Public elementary schools. A three-year demonstration project was subsequently developed by the Society and financed by the Wieboldt Foundation.[18] As a result of evaluation of the Project by a special committee of the Welfare Council of Metropolitan Chicago, the Chicago Hearing Society has continued to assume responsibility for these services to children as professional staff has been available.

Based upon the experience gained through the Project and in subsequent years, some conclusions can be drawn which have statewide implications.

1. Few young deaf and hard of hearing children have opportunity for after-school social and recreational actvities with other children unless special efforts are made to recruit and place them in groups.

2. Group-serving agencies such as community centers, YMCA, YWCA, Girl Scouts, Boy Scouts and camps will include hearing impaired children in their programs when they understand what is involved and if staff is available.

3. Some parents are unaware that their deaf and hard of hearing children can join groups in camps and community centers, and in many instances are fearful of letting them do so.

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[16] Paul Simon—"Healthy Group Experience for the Handicapped Child." The Educational Press Bulletin, Springfield, Illinois-March, 1955.

[17] Journal of the International Council for Exceptional Children. Vol. 23—No. 3—December, 1956.

[18] "Group Work with Hearing Impaired Children." Published Report on a Three-Year Demonstration Project for Deaf and Hard of Hearing Children—Chicago Hearing Society—1958. (Out of print.)

4. Camping provides excellent opportunity for deaf children to participate with normally hearing children since the programs are so activity centered.

5. The integration of hearing impaired children in social groups with normally hearing children may occur on a variety of levels, depending upon many factors. These factors include the previous social experience of the child, the knowledge and skill of the group leader, size of the group, kinds of activity, and the ability of the child to communicate and receive ideas and instructions.

Some deaf children can, with special help, become participating members of a normally hearing group. Others may join specific activities in a community center alone or with a hearing impaired "buddy," but will prefer to participate regularly in a group of their hearing impaired friends. Others may want only to be in segregated groups of hearing handicapped children but as a group may participate with normally hearing groups in all-agency programs, such as bowling, dancing, or competitive athletic events.

6. The majority of deaf teen-agers prefer to join social and recreational activities with their deaf peers. At this time of their lives the ability or lack of ability to communicate orally becomes a most important factor in determining their social contacts and activities.

7. In view of the communication problem attendance of the child at special education classes in schools outside his home neighborhood is apt to preclude the development of close friendship ties with other children in the neighborhood and thus opportunities for after-school play activities may be limited.

8. Some children who attend residential schools have difficulty in finding opportunities for social and recreational activities when they return home for vacation.

RECOMMENDATIONS FOR SOCIAL AND LEISURE-TIME NEEDS OF THE HEARING IMPAIRED

1. The Department of Special Education of the Office of the Superintendent of Public Instruction and the Department of Children and Family Services should assume joint responsibility for the development of social and recreational services for hearing impaired children. Such planning would include consideration of better use of existing community facilities, development of new resources through demonstration projects, and education of professional staff and the community with respect to these special needs. Local planning should take place through the regional programs of these two departments in cooperation with local group-serving agencies and parents' groups. If a statewide voluntary hearing society is developed, this agency should have an important role not only in planning, but also in implementation of the plans.

2. The Schools of social work and training centers for leisure time personnel should provide appropriate training and practicuum in the special social needs of hearing impaired children.

3. In-service training opportunities for workers in these two fields should be provided.

F. REHABILITATION AND EMPLOYMENT OF HEARING IMPAIRED

Vocational adjustment for deaf persons has historically been a difficult process. Recent and projected changes in the nature of the world of work clearly demonstrate that the problem will grow far worse if strong corrective steps are not taken now. This is true despite the fact that deaf persons have compiled a commendable work record over the years. They have proven to be a valuable part of our nation's labor force and have been acclaimed for their excellent attendance records, stability of job tenure, and overall positive functioning in employment. However, many deaf people encounter great difficulty in obtaining and adjusting to employment, especially the under-achieving and multiply-handicapped deaf. These persons often require special assistance to prepare for and enter into employment, assistance that has too often been unavailable.

It is widely recognized that, with the current labor market, underemployment is a more serious problem for deaf persons than unemployment. Underemployment involves deaf persons being engaged in occupations grossly below their actual capacities to perform. State agencies, providing services to the hearing impaired, must exercise sustained vigilance and actively pursue programs which enable deaf people not only to enter into employment, but to enter into appropriate employment allowing them to realize their full potential as contributing members of society.

Automation poses a rapidly increasing threat to the deaf as it eliminates many skilled and semi-skilled jobs, jobs which in the past have provided the major source of employment for deaf persons. Furthermore, deaf persons, automated out of jobs, are often deprived of opportunities extended hearing persons for retraining due to the communication barrier. Hence, these persons require special assistance to make a satisfactory adjustment.

The importance of educational programs for the deaf in preparing students for the world of work cannot be over stressed. Schools must often fill the void left by parents who through lack of interest, or inability to communicate, fail to prepare their child for future employment. Schools must develop special curriculums to meet the needs of the underachiever and multiply-handicapped student such as work-study or diversified occupation programs. The success of an educational program for the hearing impaired will be measured by, among other things, its success in preparing students for the world of work.

RECOMMENDATIONS FOR REHABILITATION AND EMPLOYMENT OF HEARING IMPAIRED

1. The Division of Vocational Rehabilitation and the Illinois State Employment Service should develop a cross referral system whereby all hearing impaired* persons seeking training and/or employment be served jointly by the two agencies. To enable the Illinois State Employment Service to provide a comprehensive program of employment services for hearing impaired people, it would be necessary for them to employ a considerable number of counselors with special skills in working with hearing impaired people. Since specialized counselors are very difficult to find and since such a service would duplicate to a considerable extent services already supplied by the Division of Vocational Rehabilitation, it is recommended that the Illinois State Employment Service institute procedures whereby all hearing impaired persons applying to the I.S.E.S. for employment are automatically referred to the Division of Vocational Rehabilitation. The Division of Vocational Rehabilitation, in turn, should attempt to work closely with the local offices of the I.S.E.S. in order to utilize the employment skills, knowledge, and opportunities which exist within that agency. The two agencies working together in this manner could do much to prevent unemployment and to alleviate underemployment among hearing impaired people.

2. In order to be able to carry out Recommendation #1, it is further recommended that the Illinois Division of Vocational Rehabilitation be urged to supply at least one counselor specially trained to work with severely hard of hearing and deaf people within each of its regions. In addition to working closely with the I.S.E.S., and other agencies and other organizations serving the deaf, these regional counselors could work closely with all educational programs for the deaf within their region. The counselors should have a plan for working with each student in these educational programs for at least one year, and preferably longer, prior to the termination of the student in the educational program. This would permit the educational program and the vocational rehabilitation counselor to make the best preparation possible for further training or placement.

3. The Division of Vocational Rehabilitation and the Office of Public Instruction should establish some specialized programs, including training opportunities wherever possible, for hearing impaired students with selected junior colleges.

4. The Division of Vocational Rehabilitation, the Office of the Superintendent of Public Instruction, and any other appropriate agencies, should make known to the Federal government the great need which exists throughout the country for interstate regional vocational training centers for deaf and hearing impaired students with severe communication problems. Such centers are required for the majority of students terminating in schools for the deaf who do not have the necessary ability or educational background to attend either Gallaudet College or the National Technical Institute for the Deaf.

5. The Division of Vocational Rehabilitation should give serious consideration to ways in which underemployment of deaf persons can be relieved by upgrading them with more marketable skills. This should include close study of unusual kinds of employment for which labor is relatively scarce and for which trained deaf people could qualify.

6. Continuing follow-up studies should be done by each agency serving the Hearing Impaired; the follow-up should be designed in regard to what

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*Deaf and severely hard of hearing are more likely to need this than other hearing impaired.

the program is and what the program is set up to provide so that the agency can evaluate its program in terms of what is happening to its students.

7. The Illinois Department of Personnel should examine carefully, and modify in any manner possible, the written testing procedure to allow for job performance skills in order to avoid penalizing deaf persons due to language inadequacies imposed by deafness. In particular, the Committee recommends that some procedure be available for substituting a performance test for deaf persons in place of the formal examination.

8. Residential and regional schools for the deaf should employ prevocational coordinators to develop work-study programs and to provide counseling necessary for the preparation of deaf students for the world of work.

9. The Division of Vocational Rehabilitation should promote the development of sheltered workshops for the increasing number of severely multiply-handicapped deaf persons or encourage workshops to add special staff to serve deaf clients.

G. REFERRAL AND CONSULTATION RESOURCE

Among the groups consulted about the needs of the hearing impaired and particularly the deaf child, was the Illinois Association of the Deaf. One of the significant needs expressed by this group, beyond the needs identified by the members of the Committee on Hearing Impaired, was a referral and consultation resource so there is a ready channel for the hearing impaired person to the services in the State. Because the breadth of services cuts across responsibilities in many departments and levels of governmental and private agencies, there is frequently confusion about the appropriate resource for a needed service.

In addition to the above needs, there are those that come under the category of family problems and the problems of day to day living requiring technical or professional information or assistance through appropriate channels. This need could be served best by the agency which has family consultation service as a basic function.

RECOMMENDATION FOR REFERRAL AND CONSULTATION RESOURCE

The Department of Children and Family Services should develop a service which would make readily obtainable family consultation services to the hearing impaired, including referral to other resources for needs which would be more appropriately served by other agencies. Because there are special problems of communication with this group, it is further recommended that specialized staff be designated for this service and that interpreter services be included.

H. PUBLIC INTERPRETATION

Public education and public relations are services that must be part of the on-going business of individual agencies. In addition to the efforts of individual agencies, there is a need for a coordinated effort to achieve continuity and purpose. No single agency is equipped at the present time to assume this responsibility. This service might be conducted by a statewide hearing association such as that which has been proposed as an expansion of the Chicago Hearing Society.

I. COORDINATION OF SERVICES

The benefit of a comprehensive center is that the various professional skills needed for a particular child are close at hand and they become accustomed to working with each other, bringing the different disciplines together as a team to decide on (1) present status of the hearing impairment in terms of type, cause and degree; (2) next immediate steps to be taken; (3) over-all long-term plan of care, education and treatment; (4) methods and designation of responsibility for maintaining continuity of follow-up and proper review and re-evaluation; and (5) interpretation of results of the diagnostic evaluation and plan of treatment to those who must carry out special phases of the plan (speech therapists, special teacher, parents, etc.) Until the ultimate goal of a comprehensive diagnostic center has been accomplished, some satisfactory substitute for a multi-professional team approach must be sought.

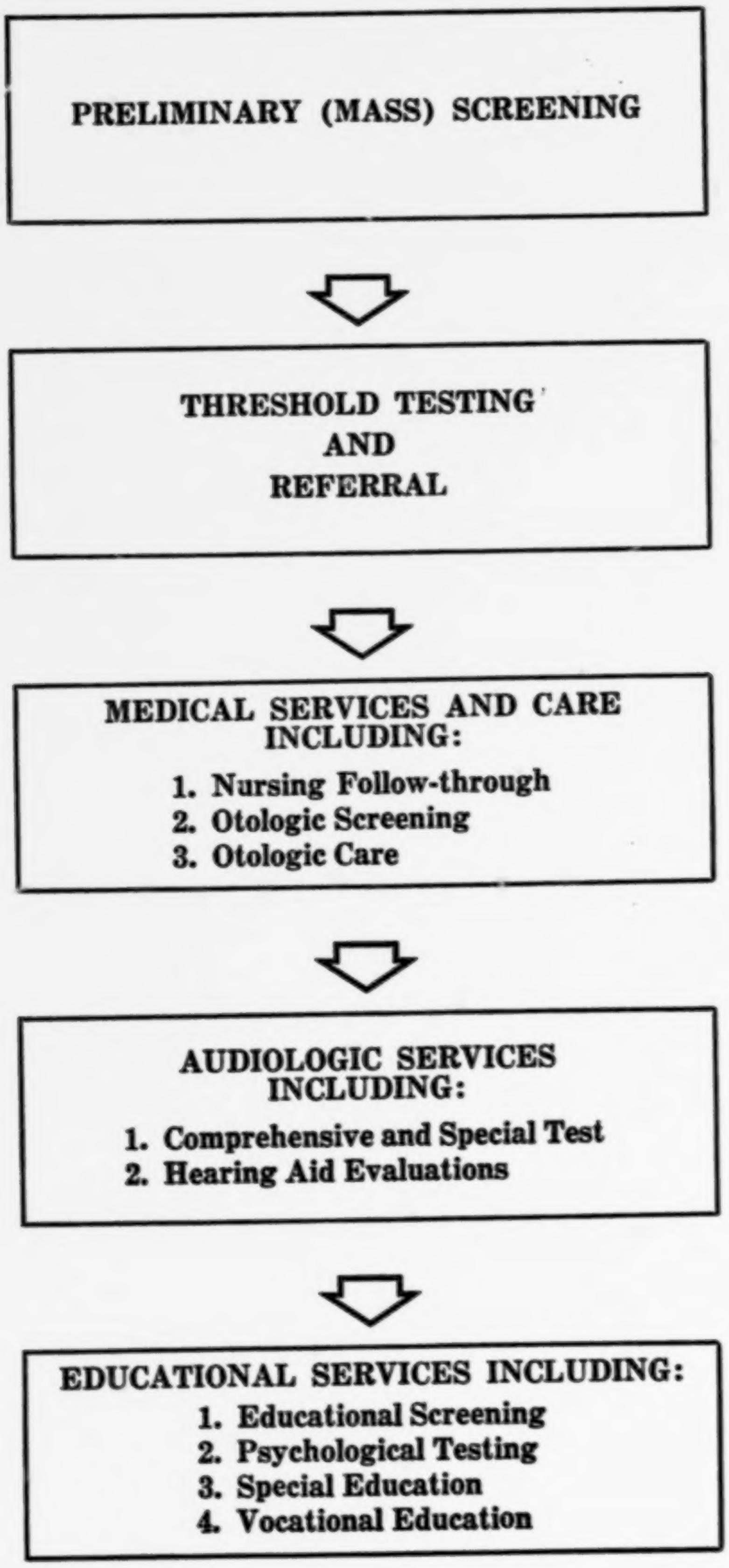
An important element in the diagnostic evaluation is the inclusion of the parent in such a way that his understanding and cooperation in the plan can be obtained. This is a vital element in the effectiveness of any plan for treatment and management and one which is too often forgotten in the multi-discipline approach, with each professional contributing his highly specialized contribution and all forgetting that the parent may hold the key to the effective implementation.

One tool which was given careful consideration but turned down by the Committee for coordination purposes was the development of a Central Registry. A well conceived registry would be valuable for those involved in giving services, but the cost of an effective registry is extremely expensive. An effective registry involves a complicated process of determining the specific purpose, defining the population to be registered in explicit terms, spelling out the criteria for entry, specifying the identifying and classifying variables for each person, providing a means for retrieval, addition and alteration of material, establishing means for checking internal validity and sources of data, defining the persons who are to have access to the information and providing for the protection of the confidential information in the registry and for the persons reporting information to the registry.

RECOMMENDATION FOR COORDINATION OF SERVICES

Recommendations throughout this report have stressed the interrelatedness of identification, diagnosis, planning and treatment and the importance of coordination. Effective coordination is not easy to maintain but should be accomplished more readily when the different elements of the program are a part of a team effort with clear designation of responsibility for each phase of the program, plans for periodic reappraisal of each child's status, a prescribed plan for checking to ascertain that recommendations are being carried out effectively, provision for adequate but simple transmittal records and provision for periodic conferences of the professional workers involved with inclusion of the parents of the child as much as possible.

FUNCTIONAL FLOW CHART OF HEARING CONSERVATION SERVICES


PRELIMINARY (MASS) SCREENING
THRESHOLD TESTING AND REFERRAL
MEDICAL SERVICES AND CARE INCLUDING:
1. Nursing Follow-through
2. Otologic Screening
3. Otologic Care
AUDIOLOGIC SERVICES INCLUDING:
1. Comprehensive and Special Test
2. Hearing Aid Evaluations
EDUCATIONAL SERVICES INCLUDING:
1. Educational Screening
2. Psychological Testing
3. Special Education
4. Vocational Education

APPENDIX

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Dr. John J. O'Neill, Champaign
Mr. James Orman, Jacksonville
Mr. William F. Pahle, Evanston
Dr. Harold R. Phelps, Normal
Dr. William D. Phillips, Chicago
Dr. E. Milo Pritchett, DeKalb
Dr. Stephen Quigley, Urbana
Miss Marian Quinn, Chicago
Dr. Irving H. Rozenfeld, Chicago
Mr. Lyman Samo, Springfield
Miss Mary Thompson, Chicago

SAMPLE FORM FOR REFERRAL AND REPORT FROM PHYSICIAN FOLLOWING DETECTION OF HEARING LOSS IN HEARING TEST

TO: Parents of ....

Address ....

Your child was recently given a hearing test. This test indicated the presence of a hearing difficulty in the .... **ear.**
right—left—both

In order to plan an educational program, it is desirable that your child be seen by your regular doctor or ear specialist and that his findings be shared with the school. An early medical visit is recommended.

Please take this notice to your physician for the special report which is required.

....
Nurse or Other Authority

Address ....

MEDICAL REPORT

Name of Child .... **Date Seen** ....

1. General Medical Diagnosis: ....
....
....

2. Specific otologic findings: ....

(a) Condition amenable to treatment: Yes.............. **No**..............

(b) Probable duration of treatment: ....

(c) Can hearing be expected to improve or return to normal? ....
....

(d) Is further hearing consultation recommended?
1. Otologist Yes.............. **No**..............
2. Hearing Center Yes.............. **No**..............

(e) Special instructions regarding limitation of activities ....
....

(f) Results of hearing tests (attach audiogram if available) ....
....
....
....

(g) In the event hearing tests reveal recurrent or continuous hearing deficit, do you recommend—
Return to your office ....
Referral to otologist ....
or
Special hearing evaluation center ....
Other (specify) ....

3. Remarks ....
....
....

CONSENT OF PARENT OR GUARDIAN

I agree the above information on my child or ward

can be released to ....

....
Parent or guardian's signature

Signed .... **M.D.**
Address ....
Phone ....

PLEASE RETURN TO:

....
....
....

DEFINITIONS OF HANDICAPPED CHILDREN IN SCHOOL CODE ARTICLE 14

Sec. 14-1.02. Physically handicapped children. "Physically handicapped children," means children, other than those with a speech defect, between the ages of 3 and 21 years who suffer from any physical disability making it impracticable or impossible for them to benefit from or participate in the normal classroom program of the public schools in the school districts in which they reside and whose intellectual development is such that they are capable of being educated through a modified classroom program.

Sec. 14-1.03. Maladjusted children. "Maladjusted children" means children between the ages of 5 and 21 years who because of social or emotional problems are unable to make constructive use of their school experience and require the provisions of special services designed to promote their educational growth and development.

Sec. 14-1.04. Educable mentally handicapped children. "Educable mentally handicapped children" means children between the ages of 5 and 21 years who because of retarded intellectual development as determined by individual psychological evaluation are incapable of being educated profitably and efficiently through ordinary classroom instruction but who may be expected to benefit from special educational facilities designed to make them economically useful and socially adjusted.

Sec. 14-1.05. Trainable mentally handicapped children. "Trainable mentally handicapped children" means children between the ages of 5 and 21 years who because of retarded intellectual development, as determined by individual psychological evaluation, are incapable of being educated properly and efficiently through ordinary classroom instruction or special educational facilities for educable mentally handicapped children, but who may be expected to benefit from training in a group setting designed to further their social adjustment and economic usefulness in their homes or in a sheltered environment. Any such child shall be regarded as eligible for special educational facilities only as long as benefit to him from the program can be determined to exist.

Sec. 14-1.06. Speech defective children. "Speech defective children" means children between the ages of 5 and 21 years whose diagnosis by a certified teacher meeting the requirements of the Superintendent of Public Instruction as a qualified speech correctionist indicates that specialized instruction would improve or correct the defects.

Sec. 14-1.07. Multiply handicapped children. "Multiply handicapped children" means children between 3 and 21 years who may be placed within 2 or more classifications of this Article, or in at least 2 different programs provided under Section 14-1.02 of this Article.

Sec. 14-1.08. Special educational facilities. "Special educational facilities" includes special schools, special classes, special housing, special instruction, special reader service, braillists and typists for visually handicapped children, transportation, maintenance, instructional material, therapy, professional consultant services, psychological services, school social worker services, special administrative services, salaries of all required special personnel, and other special educational services required by the child because of his disability if such services are approved by the Superintendent of Public Instruction and the child is eligible therefor under this Article and the regulations of the Superintendent of Public Instruction.

Sec. 14-1.09. School psychologist. "School psychologist" means a psychologist who has graduated with a master's or higher degree in psychology or educational psychology from an institution of higher learning which maintains equipment, course of study, and standards of scholarship approved by the Superintendent of Public Instruction, who has had at least one school year of full-time supervised experience in the individual psychological evaluation of children of a character approved by the Superintendent of Public Instruction, and who has such additional qualifications as may be required by the Superintendent of Public Instruction, and who holds a permit from the Superintendent of Public Instruction valid for 4 years and renewable upon application and submission to the Superintendent of Public Instruction of evidence of having performed acceptable psychological work within the time period designated in the permit.

Sec. 14-1.10. Professional worker. "Professional worker" means a trained specialist, and shall be limited to speech correctionist, school social worker, school psychologist, psychologist intern, school social worker intern, special administrator intern, registered therapist, professional consultant, special administrator or supervisor giving full time to special education, and teacher of any class or program defined in this Article who meets the requirements of this Article, who has the required special training in the understandings, techniques, and special methods of instruction for children who because of their handicapping conditions are placed in any program provided for in this Article and who works in such program.

Sec. 14-4.01. Special educational facilities for handicapped children—Types of children included. School boards of any school districts that maintain a recognized school, whether operating under the general law or under a special charter, may until July 1, 1969, and shall thereafter, subject to any limitations hereinafter specified, establish and maintain such special educational facilities as may be needed for one or more of the types of handicapped children defined in Sections 14-1.02 to 14-1.07 of this Article who are residents of their school district, and such children, residents of other school districts as may be authorized by this Article.

RULES AND REGULATIONS OF THE OFFICE OF SUPERINTENDENT OF PUBLIC INSTRUCTION

ARTICLE III

DEAF AND HARD OF HEARING

A. DEFINITION

Rule 3.01 Services may be established for deaf or hard of hearing children between the ages of 3 and 21 whose hearing loss makes it "impracticable or impossible for them to benefit from or participate in the normal classroom program of the public schools in the school district in which they reside and whose intellectual development is such that they are capable of being educated through a modified classroom program." (The School Code of Illinois, 14-1, Par. 1.)

Rule 3.02. A DEAF child is defined as that child in whom the residual hearing is not sufficient to enable him to understand speech and develop language successfully, even with a hearing aid, without specialized instruction. Two interpretations of a deaf child are noted:

a. An audiological interpretation of a deaf child is generally understood to be a child with a hearing loss approaching an average of 75 or 80 decibels or greater across the speech range in the better ear, without a hearing aid.

b. An educational interpretation of a deaf child is generally understood to include a child with a hearing loss approaching an average of 60 or 65 decibels across the speech range in the better ear without a hearing aid, and who is unable to develop language successfully, even with a hearing aid, without special education.

Rule 3.03 A HARD OF HEARING child is defined as that child in whom the sense of hearing, although defective, is functional with or without a hearing aid, but whose hearing loss causes a language deficit rendering him unable to make full use of the regular school experience without special services.

Rule 3.04 Children defined under Rule 3.02 and Rule 3.03 require critical evaluation of language development, school achievement, and the use of residual hearing. Periodic re-evaluation is required in order to determine whether the child is functioning as a deaf or as a hard of hearing child since the effectiveness of hearing is subject to change.

B. ESTABLISHMENT OF EDUCATIONAL FACILITIES

Rule 3.05 The Board of Education of the local district shall formally take action to initiate the program only after careful preplanning to insure sound establishment of such services, proper identification of children, meeting of required standards for reimbursement, and continuity and expansion of services.

Rule 3.06 The preplanning shall include consultation with the recommendation of the Division of Special Education.

Rule 3.07 An approved plan must include a sufficient number of children to make it possible to provide for appropriate groupings according to hearing loss, age, and educational achievement at all educational levels.

Rule 3.08 Programs for DEAF children shall have a minimum of 6 classes at the elementary level in addition to a preschool class.

Rule 3.09 Programs for deaf children, having less than the minimum number of classes, will be approved for reimbursement only if these classes are part of a comprehensive, long-range developmental plan which has been approved by the Division of Special Education.

Rule 3.10 Classes and services for HARD OF HEARING children must be separate from those for deaf children. Appropriate classes and services for hard of hearing children may be:

a. Self-contained
b. Resource
c. Itinerant

Rule 3.11 Classes for preschool children shall be for children ages 3, 4, and 5, and shall have a teacher-team of a nursery-kindergarten teacher and a qualified teacher of the deaf.

Rule 3.12 Annual application for pre-approval of special education programs or services shall be filed by the school district within 30 days after the beginning of the class or service. In each instance of late application for pre-approval, reimbursement claims for special education funds will be reduced by one day, for each day after the 30 days period.

C. ELIGIBILITY

Rule 3.13 Children between the ages of 3 and 21 years who are deaf or hard of hearing may be eligible for special classes or services.

Rule 3.14 Prior to enrollment, an otological examination is required and subsequent examinations are required at least every 2 years unless this recommendation is modified by the otologist.

Rule 3.15 Prior to enrollment, an audiological evaluation from an approved hearing clinic is required and subsequent evaluations should be made at the request of the teacher, but no less frequent than every 2 years unless this recommendation is modified by the audiologist.

Rule 3.16 A visual examination is required when defective vision is suspected.

Rule 3.17 A psychological evaluation is necessary where there is a question of learning disability.

D. ADMISSION AND DISMISSAL OF CHILDREN

Rule 3.18 The Superintendent of Schools or another administrator designated by him shall have responsibility for enrolling the child in the program.

Rule 3.19 The administrator shall base his decision on the eligibility of the child and whether or not the program as described on the Application for Conditional Pre-Approval can meet the child's needs.

Rule 3.20 The mandatory provisions, set forth in the School Code of Illinois, Section 14-6, apply to children ages 3 to 21.

Rule 3.21 If a deaf child is being considered for dismissal from a special program, the state consultant must be notified in order to facilitate further educational follow-up.

E. CASE STUDIES

Rule 3.22 Cumulative case study records shall be kept in a manner which shall safeguard their confidentiality, and shall be located in the school building where they are easily accessible to the teacher at all times. Attention should be given to:

a. Family background
b. Developmental history of the child
c. Medical and visual examination
d. Otological report
e. Audiological evaluation
f. Psychological examination
g. Educational evaluations and anecdotal notes

F. SIZE OF CLASS

Teacher-Pupil Ratio.

Rule 3.23 The size of the special class shall be determined by the number of educational levels and degrees of hearing loss within each class group.

Rule 3.24 A class for preschool deaf children (ages 3, 4, and 5) with one qualified teacher of the deaf and one qualified nursery-kindergarten teacher shall have a ratio of 1 teacher to 5 children.

Rule 3.25 A class for DEAF children shall have a maximum enrollment of 6-8 children.

Rule 3.26 A class for HARD OF HEARING children shall have a maximum enrollment of 10-12 children.

G. CURRICULUM

Rule 3.27 The specialized instruction shall be designed to help the child learn and utilize communication skills in order that he may gain in knowledge and develop environmental competence and personal confidence consistent with his potential.

Rule 3.28 The school curriculum must be adapted to the special needs of each child, with particular attention to the following:

- a. Full use of residual hearing
- b. Full use of intact sensory avenues, especially visual and tactile
- c. Language level and sequential learning
- d. Experiential teaching and field trips

H. LOCATION OF CLASSES AND PHYSICAL FACILITIES

Rule 3.29 Classes for children with hearing losses shall be located in a school building with children of comparable ages.

- a. These classes should be located as advantageously as possible for all school districts sharing in the program.

Rule 3.30 Physical facilities shall include:

- a. Classrooms of sufficient size to accommodate special equipment and provide space for proper learning activities at the various class levels
- b. For preschool programs,
  - (1) A kindergarten-type activity room
  - (2) A small room suitable for specialized instruction with small groups
- c. Adequate lighting and acoustic treatment, extra electrical outlets, and provision for visual teaching

I. EQUIPMENT AND INSTRUCTIONAL MATERIAL

Rule 3.31 Classes and services for children with hearing losses shall be provided with appropriate equipment and educational materials, such as:

- a. Pertinent visual aids, phonograph records, and auditory habilitation materials
- b. Efficient and up-to-date amplification equipment

J. QUALIFICATIONS OF TEACHERS

Rule 3.32 To qualify to teach children with hearing losses, in an approved special class, the teacher must:

- a. Have a valid Illinois Teacher Certificate
- b. Have the specialized training which is required by the Superintendent of Public Instruction, Division of Special Education

K. SUPERVISION

Rule 3.33 All districts having programs for children with hearing losses shall devise and present a plan for the supervision of this program by a qualified person.

- a. A qualified supervisor of the deaf may be employed to coordinate the program on a full-time basis.
- b. A qualified teacher of the deaf, who is teaching in the program, may be designated as head teacher and given responsibility for coordinating the program on a part-time basis.

Rule 3.34 The plan of supervision must cover all phases of the program including identification of children, the diagnostic process, the instructional program, evaluation of progress, and parent education.

STATISTICS ON CHILDREN WITH HEARING LOSS IN THE ELEMENTARY GRADES OF THE CHICAGO PUBLIC SCHOOLS

(September 1966 - June 1967)*

CHART I—INCIDENCE

	**BORDERLINE			**GREATER THAN BORDERLINE				
Children Ages 5-14	Total	New Cases	Former Cases	Total	New Cases	Former Cases	Unilateral	Bilateral
No. Tested 121586	5481	3700	1781	3079	1381	1698	2195	884
Percent 100%	4.50%	3.04%	1.46%	2.53%	1.13%	1.39%	71.28%	28.71%

*Individual pure-tone hearing tests are given annually to all the children in the first and fourth grades plus teacher referrals from all other grades and children in special divisions and speech classes. In addition to these, all children who did not pass the hearing test in the previous screening are retested.

**Those children who do not meet the minimum requirements fall into one of two major categories:

(a) Borderline hearing loss. (b) Greater than Borderline (Referral for otologic screening.)

a. **Borderline Cases**
Hearing level is 40 dB (ISO) or greater at any one frequency or 35 dB at one or more frequencies, except if the loss in hearing acuity is at 4000 and/or 8000 cps accompanied by a loss of 30 dB or greater at 2000 in the same ear.

b. **Greater Than Borderline Hearing Loss** (Referral for otologic screening)
A child whose hearing level is 40 dB (ISO) or greater at more than one frequency in one or both ears, except if the drop in hearing acuity is at 4000 and/or 8000 cps accompanied by a loss of 25 dB or less at 2000 cps in the same ear.

CHART II

GREATER THAN BORDERLINE HEARING LOSS—UNILATERAL
(Type and Degree of Hearing Impairment)
(Diagnosis given by private physician or Hearing Center)

TYPE AND DEGREE OF HEARING LOSS

	CONDUCTIVE				MIXED	SENSORI-NEURAL					
Children Ages 5-14	Total	*31-40 dB Mild	*41-55 dB Moderate	*56-70 dB Mod-Sev		Total	High-tone	*31-40 dB Mild	*41-55 dB Moderate	*56-70 dB Mod-Sev.	*71 dB—Severe
Number 2024	1247	691	397	159	68	709	162	92	85	50	320
Percent 100%	61.6%	55.4%	31.8%	12.7%	3.3%	35.0%	22.8%	12.9%	11.9%	7.0%	45.1%

CHART III

GREATER THAN BORDERLINE HEARING LOSS—BILATERAL
(Type and degree of hearing impairment)
(Diagnosis given by private physician or Hearing Center)

TYPE AND DEGREE OF HEARING LOSS

	CONDUCTIVE				MIXED	SENSORI-NEURAL					
Children Ages 5-14	Total	*31-40 dB Mild	*41-55 dB Moderate	*56-70 dB Mod-Sev.		Total	High-tone	**Pre-cipitous	*31-40 dB Mild	*41-55 dB Moderate	*56-70 dB Mod-Sev.
Number 735	258	96	71	91	20	457	30	43	115	160	109
Percent 100%	35.1%	37.2%	27.5%	35.2%	2.7%	62.1%	6.5%	9.4%	25.1%	35.0%	24.0%

*Average of hearing levels for 500, 1000, and 2000 cps. Re 1964 ISO Reference.

**Hearing within normal limits through 1000 cps with a precipitous drop in hearing for the remaining frequencies.

CHART IV

EDUCATIONALLY SIGNIFICANT HEARING LOSS

BILATERAL HEARING LOSSES

Children Ages 5-14	*31-40 dB Mild	*41-55 dB Moderate	*56-70 dB Mod-Severe	**Precipitous	Children Wearing Hearing Aids
Number 735	258	146	75	43	213
Percent 100%	35.1%	19.8%	10.2%	5.8%	28.9%

*Average of hearing levels for 500, 1000, and 2000 cps. Re 1964 ISO Reference.

**Hearing within normal limits through 1000 cps with a precipitous drop in hearing for the remaining frequencies.

CHART I

STATISTICS ON HEARING IMPAIRMENT*

I. Incidence of Hearing Loss, Pittsburgh Study Population. The Pittsburgh Study population does not include children who are in special schools for the hearing handicapped.

CHILDREN	A	B	C	D	E	F
AGES 5-10	15 dB	15-29dB	30-44dB	45-59dB	60 dB and more	
NUMBER 4064	3996	38	19	9	2	
PERCENT 100%	98.3%	.9% 9 in 1000	.5% 5 in 1000	.2% 2 in 1000	.05% 5 in 10,000	
DEGREE OF HANDICAP	Not significant	Slight	Mild	Marked	Severe	Extreme
ABILITY TO UNDERSTAND SPEECH	No significant difficulty with faint speech	Difficulty only with faint speech	Frequent difficulty with normal speech	Frequent difficulty with loud speech	Can understand only shouted or amplified speech	Usually can not understand even amplified speech

---

*Proceedings, Conference on the Collection of Statistics of Severe Hearing Impairments and Deafness in the United States, 1964, U. S. Department of Health, Education and Welfare, pp. 41-44. These statistics do not include children in schools or programs for the deaf, and are for speech range only.

CHART II

ESTIMATE BY COUNTY OF HEARING IMPAIRED CHILDREN IN ILLINOIS[1] BASED ON INCIDENCE AND DEGREE OF HEARING LOSS

COUNTIES	ELEMENTARY POPULATION	MEDICAL	EDUCATIONAL: 1.7% NEED GUIDANCE OR SPECIAL EDUCATION (LOSS IN SPEECH RANGE ONLY, PITTSBURGH STUDY[2])				
		3½% Need Medical Referral[3]	Not Significant 15 dB 98.3%	Slight 15-29 dB 0.9% 9 in 1000	Mild 30-44 dB 0.5% 5 in 1000	Marked 45-59 dB 0.2% 2 in 1000	Severe Extreme 60 dB and more 0.05% 5 in 10,000
ADAMS	7,197	252.0	7,075.0	65.0	36.0	14.4	4.0
ALEXANDER	1,788	63.0	1,758.0	16.0	9.0	4.0	1.0
BOND	1,791	63.0	1,761.0	16.1	9.0	4.0	1.0
BOONE	3,075	108.0	3,023.0	28.0	15.3	6.2	1.5
BROWN	735	28.0	723.0	7.0	4.0	1.5	.4
BUREAU	5,309	186.0	5,219.0	48.0	27.0	11.0	3.0
CALHOUN	589	21.0	579.0	5.3	2.9	1.0	.3
CARROLL	3,259	114.0	3,204.0	29.3	16.3	7.0	2.0
CASS	2,261	79.0	2,223.0	20.3	11.3	5.0	1.1
CHAMPAIGN	18,359	643.0	18,047.0	165.2	92.0	37.0	9.1
CHRISTIAN	4,503	158.0	4,427.0	41.0	23.0	9.0	2.0
CLARK	2,193	77.0	2,156.0	20.0	11.0	4.3	1.0
CLAY	2,421	85.0	2,380.0	22.0	12.1	5.0	1.2
CLINTON	3,057	107.0	3,005.0	28.0	15.2	6.1	2.0
COLES	4,795	168.0	4,713.4	43.2	24.0	10.0	2.3
COOK	632,407	22,134.0	621,656.0	5,692.0	3,162.0	1,265.0	316.2
CRAWFORD	2,956	103.0	2,905.7	27.0	15.0	6.0	1.4
CUMBERLAND	1,099	38.0	1,080.3	10.0	5.4	2.1	.2
DE KALB	7,861	275.0	7,727.3	71.0	39.3	16.0	4.0
DE WITT	2,075	73.0	2,040.0	19.0	10.3	4.1	1.0
DOUGLAS	3,629	127.0	3,567.3	33.0	18.1	7.2	2.0
DU PAGE	54,815	1,919.0	53,883.1	493.3	274.0	110.0	27.4
EDGAR	3,057	107.0	3,005.0	28.0	15.2	6.1	2.0
EDWARDS	1,062	37.0	1,044.0	10.0	5.3	2.1	.5

EFFINGHAM	3,445	121.0	3,386.4	31.0	17.0	7.0	2.0
FAYETTE	2,553	89.0	2,510.0	23.0	13.0	5.1	1.2
FORD	2,979	104.0	2,928.3	27.0	15.0	6.0	1.4
FRANKLIN	4,436	155.0	4,361.0	40.0	22.1	9.0	2.2
FULTON	5,449	191.0	5,356.3	49.0	27.2	11.0	3.0
GALLATIN	864	30.0	849.3	8.0	4.3	2.0	.4
GREENE	2,425	85.0	2,384.0	22.0	12.1	5.0	1.2
GRUNDY	3,823	134.0	3,758.0	34.4	19.1	8.0	2.0
HAMILTON	1,312	46.0	1,289.6	12.0	7.0	3.0	1.0
HANCOCK	4,064	142.0	3,995.0	37.0	20.3	8.1	2.0
HARDIN	828	29.0	814.0	7.4	4.1	2.0	.4
HENDERSON	998	35.0	981.0	9.0	5.0	2.0	1.0
HENRY	7,403	259.0	7,277.1	67.0	37.0	15.0	4.0
IROQUOIS	5,045	177.0	4,959.2	45.4	25.2	10.0	3.0
JACKSON	5,333	187.0	5,242.3	48.0	27.0	11.0	3.0
JASPER	1,545	54.0	1,519.0	14.0	8.0	3.1	1.0
JEFFERSON	4,400	154.0	4,325.2	40.0	22.0	9.0	2.2
JERSEY	2,269	79.0	2,230.4	20.4	11.3	5.0	1.1
JO DAVIESS	2,909	102.0	2,860.0	26.2	16.0	6.0	2.0
JOHNSON	939	33.0	923.0	8.4	5.0	2.0	1.0
KANE	33,398	1,169.0	32,830.2	301.0	167.0	67.0	17.0
KANKAKEE	11,543	404.0	11,347.0	104.0	58.0	23.0	6.0
KENDALL	3,691	129.0	3,628.2	33.2	19.0	7.3	2.0
KNOX	7,681	269.0	7,550.4	69.1	38.4	15.3	4.0
LAKE	45,211	1,582.0	44,442.4	407.0	226.0	90.4	2.3
LA SALLE	15,204	532.0	14,946.0	137.0	76.0	30.4	8.0
LAWRENCE	2,670	93.0	2,625.0	24.0	13.3	5.3	1.3

This statistical report does not include Parochial and Private school populations.

[1] These estimates were obtained by using the 1964-65 Illinois school enrollment and multiplying it by the percentages in the Pittsburgh study.

[2] Approximately 50% of these children are expected to have medically remediable hearing loss: Percentages were obtained from Illinois Department of Public Health, Hearing Conservation.

[3] Proceedings, Conference on the Collection of Statistics of Severe Hearing Impairments and Deafness in the United States, 1964, U.S. Department of Health, Education and Welfare, pp. 41-44. The study population was based on 4,096 children ages 5-10 years. It does not include children who are in special schools for the hearing impaired.

CHART II (Continued)
ESTIMATE BY COUNTY OF HEARING IMPAIRED CHILDREN IN ILLINOIS[1] BASED ON INCIDENCE AND DEGREE OF HEARING LOSS

COUNTIES	ELEMENTARY POPULATION	MEDICAL	EDUCATIONAL: 1.7% NEED GUIDANCE OR SPECIAL EDUCATION (LOSS IN SPEECH RANGE ONLY, PITTSBURGH STUDY[2])				
		3½% Need Medical Referral[3]	Not Significant 15 dB 98.3%	Slight 15-29 dB 0.9% 9 in 1000	Mild 30-44 dB 0.5% 5 in 1000	Marked 45-59 dB 0.2% 2 in 1000	Severe Extreme 60 dB and more 0.05% 5 in 10,000
LEE	5,293	185.0	5,203.0	48.0	26.4	11.0	2.6
LIVINGSTON	5,888	206.0	5,788.0	53.0	29.4	12.0	3.0
LOGAN	3,945	138.0	3,878.0	36.0	20.0	8.0	2.0
MACON	16,304	571.0	16,027.0	147.0	82.0	33.0	8.1
MACOUPIN	6,294	220.0	6,187.0	57.0	31.4	13.0	3.1
MADISON	33,126	1,159.0	32,563.0	298.1	166.0	66.2	17.0
MARION	5,572	195.0	5,477.2	50.1	28.0	11.1	3.0
MARSHALL	1,653	58.0	1,625.0	15.0	8.2	3.3	1.0
MASON	2,319	81.0	2,280.0	21.0	12.0	5.0	1.1
MASSAC	1,876	66.0	1,844.1	17.0	9.3	4.0	1.0
MC DONOUGH	3,328	116.0	3,271.4	30.0	17.0	7.0	2.0
MC HENRY	12,080	423.0	11,875.0	109.0	60.4	24.1	6.0
MC LEAN	11,289	395.0	11,097.0	102.0	56.4	23.0	6.0
MENARD	1,501	53.0	1,475.4	14.0	8.0	3.0	1.0
MERCER	2,909	102.0	2,860.0	26.1	15.0	6.0	1.4
MONROE	2,168	76.0	2,131.1	20.0	11.0	4.3	1.0
MONTGOMERY	4,145	145.0	4,075.0	37.3	21.0	8.3	2.0
MORGAN	4,021	141.0	3,053.0	36.1	20.1	8.0	2.0
MOULTRIE	1,481	52.0	1,456.0	13.3	7.4	3.0	1.0
OGLE	6,235	218.0	6,129.0	56.1	31.1	12.4	3.1
PEORIA	25,955	908.0	25,514.0	233.0	130.0	52.0	13.0
PERRY	2,238	78.0	2,200.0	20.1	11.1	4.4	1.1
PIATT	2,955	103.0	2,905.0	27.0	15.0	6.0	1.4
PIKE	2,970	104.0	2,919.5	27.0	15.0	6.0	2.0

POPE	401	14.0	394.1	4.0	2.0	1.0	.2
PULASKI	1,649	58.0	1,621.0	15.0	8.3	3.2	1.0
PUTNAM	798	28.0	784.4	7.1	4.0	2.0	1.0
RANDOLPH	3,142	110.0	3,089.0	28.2	16.0	6.2	2.0
RICHLAND	2,094	73.0	2,058.4	19.0	10.4	4.2	1.0
ROCK ISLAND	19,587	686.0	19,254.0	176.2	98.0	39.1	10.0
ST. CLAIR	35,274	1,235.0	34,674.3	318.0	176.3	71.0	18.0
SALINE	3,377	118.0	3,319.5	30.3	17.0	7.0	2.0
SANGAMON	15,432	540.0	15,170.0	139.0	77.1	30.0	8.0
SCHUYLER	1,222	43.0	1,201.2	11.0	6.1	2.4	1.0
SCOTT	995	35.0	978.0	9.0	5.0	2.0	1.0
SHELBY	3,085	108.0	3,032.5	28.0	15.4	6.2	2.0
STARK	1,302	46.0	1,280.0	12.0	7.0	3.0	1.0
STEPHENSON	5,864	205.0	5,764.3	53.0	29.3	12.0	3.0
TAZEWELL	17,247	604.0	16,954.0	155.2	86.2	34.4	9.0
UNION	2,268	79.0	2,229.4	20.4	11.3	5.0	1.1
VERMILION	11,840	414.0	11,639.0	107.0	59.2	24.0	6.0
WABASH	2,020	71.0	1,986.0	18.1	10.1	4.0	1.0
WARREN	2,851	100.0	2,803.0	26.0	14.2	6.0	1.4
WASHINGTON	1,228	43.0	1,207.1	11.0	6.1	2.4	1.0
WAYNE	2,446	86.0	2,404.4	22.0	12.2	5.0	1.2
WHITE	2,954	103.0	2,904.0	27.0	15.0	6.0	1.4
WHITESIDE	9,792	343.0	9,626.0	88.1	49.0	20.0	5.0
WILL	27,787	973.0	27,315.0	250.0	139.0	56.0	14.0
WILLIAMSON	6,279	220.0	6,172.2	57.0	31.3	13.0	3.1
WINNEBAGO	29.821	1,044.0	29,314.0	268.3	149.1	60.0	15.0
WOODFORD	4,315	151.0	4,241.0	39.0	22.0	9.0	2.1

This statistical report does **not** include Parochial and Private school populations.

[1] These estimates were obtained by using the 1964-65 Illinois school enrollment and multiplying it by the percentages in the Pittsburgh study.

[2] Approximately 50% of these children are expected to have medically remediable hearing loss: Percentages were obtained from Illinois Department of Public Health, Hearing Conservation.

[3] Proceedings, Conference on the Collection of Statistics of Severe Hearing Impairments and Deafness in the United States, 1964, U. S. Department of Health, Education and Welfare, pp. 41-44. The study population was based on 4,096 children ages 5-10 years. It does not include children who are in special schools for the hearing impaired.